PB 161631

NBS

Technical Note 130

PROVISIONAL THERMODYNAMIC FUNCTIONS FOR PARA-HYDROGEN

HANS M. RODER AND ROBERT D. GOODWIN

U. S. DEPARTMENT OF COMMERCE
NATIONAL BUREAU OF STANDARDS

THE NATIONAL BUREAU OF STANDARDS

Functions and Activities

The functions of the National Bureau of Standards are set forth in the Act of Congress, March 3, 1901, as amended by Congress in Public Law 619, 1950. These include the development and maintenance of the national standards of measurement and the provision of means and methods for making measurements consistent with these standards; the determination of physical constants and properties of materials; the development of methods and instruments for testing materials, devices, and structures; advisory services to government agencies on scientific and technical problems; invention and development of devices to serve special needs of the Government; and the development of standard practices, codes, and specifications. The work includes basic and applied research, development, engineering, instrumentation, testing, evaluation, calibration services, and various consultation and information services. Research projects are also performed for other government agencies when the work relates to and supplements the basic program of the Bureau or when the Bureau's unique competence is required. The scope of activities is suggested by the listing of divisions and sections on the inside of the back cover.

Publications

The results of the Bureau's research are published either in the Bureau's own series of publications or in the journals of professional and scientific societies. The Bureau itself publishes three periodicals available from the Government Printing Office: The Journal of Research, published in four separate sections, presents complete scientific and technical papers; the Technical News Bulletin presents summary and preliminary reports on work in progress; and Basic Radio Propagation Predictions provides data for determining the best frequencies to use for radio communications throughout the world. There are also five series of nonperiodical publications: Monographs, Applied Mathematics Series, Handbooks, Miscellaneous Publications, and Technical Notes.

A complete listing of the Bureau's publications can be found in National Bureau of Standards Circular 460, Publications of the National Bureau of Standards, 1901 to June 1947 ($1.25), and the Supplement to National Bureau of Standards Circular 460, July 1947 to June 1957 ($1.50), and Miscellaneous Publication 240, July 1957 to June 1960 (Includes Titles of Papers Published in Outside Journals 1950 to 1959) ($2.25); available from the Superintendent of Documents, Government Printing Office, Washington 25, D. C.

NATIONAL BUREAU OF STANDARDS

Technical Note

130

DECEMBER 1961

PROVISIONAL THERMODYNAMIC FUNCTIONS FOR PARA-HYDROGEN

Hans M. Roder and Robert D. Goodwin
NBS Boulder Laboratories

The work described in this report was supported in part by the National Aeronautics and Space Administration.

DISTRIBUTED BY

UNITED STATES DEPARTMENT OF COMMERCE

OFFICE OF TECHNICAL SERVICES

WASHINGTON 25, D. C.

Price $3.00

CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF SYMBOLS AND UNITS

R	gas constant, 82.082 cm^3 atm/g mole °K
P	pressure atm
	P_{sat} vapor pressure
	P_c critical pressure, 12.770 atm
V	volume cm^3/g mole
	V_{gas} volume of saturated vapor, cm^3/g mole
	V_{liq} volume of saturated liquid, cm^3/g mole
T	absolute temperature, degrees Kelvin, Triple point of
	H_2O 273.16°K
	T_c critical temperature, 32.984°K
C_p^o	"Specific heat of ideal gas", cal/g mole °K
ρ	density, g mole/cm^3
	ρ_{sat} saturated liquid density
	ρ_c critical density, 0.0152672 g mole/cm^3
ΔH_{vap}	heat of vaporization, cal/g mole
C_{sat}	saturated liquid heat capacity, cal/g mole °K
Z	= PV/RT
$h_{T,\rho}$	enthalpy at T and ρ, cal/g or j/g
$u_{T,\rho}$	internal energy at T and ρ, cal/g or j/g
$s_{T,\rho}$	entropy at T and ρ, cal/g°K or j/g°K

PROVISIONAL THERMODYNAMIC FUNCTIONS FOR PARA-HYDROGEN

by

Hans M. Roder and Robert D. Goodwin
Cryogenic Engineering Laboratory

ABSTRACT

New PVT data recently obtained at this laboratory were used to compute tabular values of internal energy, enthalpy, and entropy of para-hydrogen. These properties, together with specific volume, are presented here as functions of temperature and pressure. The new data encompassed the temperature range 20° to 100°K at pressures up to 340 atm. Earlier data were used to extend the tables to 300°K. Above 100°K the upper limit of pressure is 100 atm. The information is also presented in the form of thermodynamic charts. In supplement A to this report the thermodynamic tables and charts are presented in units of: psia, degrees Rankine, BTU, pounds, and cubic feet.

1. INTRODUCTION

The urgency of the need for thermodynamic functions of para-hydrogen prompts this Technical Note, and justifies the approximations used in computation of the provisional functions. The 20.3°K equilibrium hydrogen (0.21% ortho) is simply called parahydrogen in this report.

Subsequent sections present the data used, the equation of state which is used to represent the PVT data, the derived thermodynamic functions, the extension of these functions above 100°K, and the resulting thermodynamic tables and charts.

More accurate computations of the thermodynamic functions are planned. When completed, they will supersede results given in the present report. Either direct numerical techniques or an improved equation of state will be employed with PVT data from Goodwin [1961, 1962] and specific heats from Younglove [1962].

In consideration of engineering requirements Supplement A of this report presents the thermodynamic tables and charts in the following units: psia, degrees Rankine, BTU, pounds, cubic feet.

2. THE DATA

The data needed for the calculations include experimental PVT data, the ideal specific heat, the vapor pressure as a function of temperature, the saturated liquid and vapor densities, the heat of vaporization at the normal boiling point, the specific heat of the saturated liquid, the vapor pressure as a function of saturated liquid density, and the critical point data.

2.1 Experimental PVT Data

Goodwin and co-workers [1961, 1962] measured 1211 PVT points for "para-hydrogen" in the ranges of 15 to 100°K and 2 to 350 atm. Of these, 15 experimental points represent vapor pressure determinations while 2 others fall on the melting line. For computational purposes these data were represented by an equation of state as described in section 3.

2.2 "Specific Heat of Ideal Gas"

The values given by Woolley, Scott, and Brickwedde [1948] for para-hydrogen were approximated in the range 10 to 100°K by

$$C_p^\circ = A + BT + CT^2 + DT^3 + ET^4 + FT^5 \ldots\ldots \quad (1).$$

No corrections were made for the more recent values of the physical constants. The maximum deviation is -.0043 cal/mole °K at 90°K or .08%, and the mean deviation is .0024 cal/mole °K. Values of the coefficients of the power series are:

$$A = +.4977816011 \times 10$$
$$B = -.3384077523 \times 10^{-2}$$
$$C = +.3521443738 \times 10^{-3}$$
$$D = -.1435633178 \times 10^{-4}$$
$$E = +.2303247505 \times 10^{-6}$$
$$F = -.1038316229 \times 10^{-8}$$

2.3 Vapor Pressure

Values used are those given by Hoge and Arnold [1951], at temperatures adjusted by -0.01°K to conform to the NBS 1955 scale for platinum resistance thermometers. After this change the maximum difference between Hoge and Arnold [1951] and Goodwin [1961, 1962] is .01 atm, while the mean difference for Goodwin's 15 points is less than .003 atm.

Smooth interpolation of P_{sat}, dP_{sat}/dT, and of d^2P_{sat}/dT^2 close to the critical temperature is required for calculation of the saturated liquid and vapor densities and of the specific heat of the saturated liquid. An interpolation polynomial was used between 30°K and the critical point as follows:

$$\log_{10} P_{sat} = A + BT + CT^2 + DT^3 \ldots\ldots\ldots \quad (2)$$

with

$$A = -.93945023 \times 10^{+1}$$
$$B = +.82691525$$
$$C = -.23118467 \times 10^{-1}$$
$$D = +.23345215 \times 10^{-3}.$$

2.4 Saturated Liquid Density

The isotherms in the compressed fluid region were expressed as low-order polynomials of pressure in density. These were then iterated to yield the densities at the appropriate vapor pressures.

The resulting densities can be expressed as a function of temperature as suggested by Hou and Martin [1959],

$$\rho_{sat} - \rho_c = \sum_{n=1}^{4} A_n (T_c - T)^{n/3} \quad \ldots\ldots\ldots\ldots \quad (3)$$

where

$$A_1 = .62675345 \times 10^{-2}$$
$$A_2 = .14973511 \times 10^{-2}$$
$$A_3 = -.18306903 \times 10^{-3}$$
$$A_4 = -.20693181 \times 10^{-4}$$

with results presented by Goodwin, et al., [1961]. The uncertainty of ± 2% in the critical density from Hoge and Lassiter [1951] implies that (3) should not be extrapolated above 32.5°K.

2.5 Saturated Vapor Density

These densities were obtained in a manner similar to section 2.4, except that experimental lines of constant volume were also intersected to the respective vapor pressures. Values used are given in Table 1.

2.6 The Heat of Vaporization at the Boiling Point

If (3) is fitted to the saturated vapor data and extrapolated to the normal boiling point, one can compute V_{gas}. V_{liq} is obtained in similar manner from the saturated liquid data, while dP_{sat}/dT at the normal boiling point is interpolated from the tables by Hoge and Arnold [1951]. The Clapeyron equation

$$\frac{dP_{sat}}{dT} = \frac{\Delta H_{vap}}{T(V_{gas} - V_{liq})} \quad \ldots\ldots\ldots \quad (4)$$

yields a value of 215.3 cal/mole in excellent agreement with the value of 214.8 cal/mole given by Johnston [1950]. The latter value was used in subsequent computations.

2.7 The Specific Heat of the Saturated Liquid

Younglove [1962] recently has measured the specific heat of the saturated liquid at this laboratory. The 33 experimental points in the temperature range of 14.8°K to 31.5°K are represented by an equation of the form

$$C_{sat} = \frac{AT}{(T_c - T)^n} + B + CT + DT^2 + ET^3 \quad \ldots\ldots \quad (5)$$

first suggested by Osborne and Van Dusen [1918]. The coefficients in (5) are:

$$A = +.43272654$$
$$B = -.13333618 \times 10$$
$$C = +.36251851$$
$$D = -.12869527 \times 10^{-1}$$
$$E = +.17227638 \times 10^{-3}$$
$$n = 0.5$$

Table 1. Densities of Saturated Para Hydrogen Vapor

Temperature °K	Experimental Density g mol/cm^3
22.222	.0010851
23.645	.0014968
24.000	.0016161
25.000	.0019939
25.389	.0021612
26.000	.0024447
26.246	.0025670
27.000	.0029795
27.571	.0033329
28.000	.0036225
28.482	.0039820
29.000	.0044107
29.585	.0049651
30.000	.0054028
31.000	.0067190
31.047	.0067862
31.853	.0083107
32.000	.0087699
32.480	.0101436
32.795	.0118154

With $0.1 < n < 1$ the equation has the required singular point at the critical temperature, yet the integrals

$$\int_T^{T_c} C_{sat} dT \quad \text{and} \quad \int_T^{T_c} \frac{C_{sat}}{T} dT$$

remain finite. The behavior of (5) near the critical point is sensitive of the choice of value for n; Equation (5) should not be extrapolated above 32.6°K.

2.8 Vapor Pressure vs. Saturated Liquid Density

For computation of changes in internal energy or enthalpy along the saturated liquid line, a relation between vapor pressure and saturated liquid density is required. The data in sections 2.3 and 2.4 above have been combined in the following expression:

$$P_c - P_{sat} = A(\rho_{sat} - \rho_c)^3 + B(\rho_{sat} - \rho_c)^4 + C(\rho_{sat} - \rho_c)^5 + D(\rho_{sat} - \rho_c)^6 + E(\rho_{sat} - \rho_c)^7 \quad (6)$$

Equation (6) is not valid for temperatures above 32.5°K. The values of the coefficients in (6) are:

$$A = +7.3123950 \times 10^{+6}$$
$$B = -6.2975538 \times 10^{+8}$$
$$C = +3.4607546 \times 10^{+10}$$
$$D = -1.2549385 \times 10^{+12}$$
$$E = +1.8502401 \times 10^{+13}$$

2.9 Selected Parameters

The value of the normal boiling point temperature was selected from Hoge and Arnold [1951] to be 20.268°K after adjustment by -0.01°K from the published value.

The critical constants were selected from Hoge and Lassiter [1951]. After adjusting the critical temperature by -0.01°K, the values are:

critical temperature,	32.984°K;
critical pressure,	12.770 atm;
critical volume,	65.5 cm^3/mole.

Experimental work is in progress for more accurate determination of the critical properties.

A value of 4.25 cal/g°K has been adopted for the entropy at the critical point. This value is thought to be most consistent with the other values tabulated. Extrapolation of (5) yields an erroneous value of 4.036 cal/g°K. The most probable value is 4.17 cal/g°K obtained by integrating along the 33°K isotherm, using S^* as a base to a final density of 0.01555 mole/cm^3. This value for the density is that indicated at present by work in progress on the determination of the rectilinear diameter.

The value of 82.082 cm^3 atm/mole °K, adopted throughout the computations for the gas constant R, is subject to adjustment. Errors from other sources, however, are much more significant; it is felt that no useful purpose would be served by any recalculation. The molecular weight of hydrogen used in the computations is 2.01572 g/mole. Conversion of calories to joules is accomplished by:

$$1 \text{ cal} = 4.184 \text{ joules.}$$

3. THE CALCULATED PVT SURFACE

The basic approximation in these calculations is the substitution of a PVT surface, generated from an equation of state, for the actual PVT data.

3.1 The Equation of State

The equation of state used is an adaptation of the Benedict, Webb, Rubin [1940] equation proposed by Strobridge [1962]:

$$P = A_1 T\rho + A_1A_2 T\rho^2 + A_3\rho^2 + \frac{A_4^*\rho^2}{T} + \frac{A_5\rho^2}{T^2} + \frac{A_6^*\rho^2}{T^4} + A_7A_1T\rho^3 +$$

$$A_8\rho^3 + A_9^*T\rho^4 + \frac{A_{10}\rho^3 e^{-A_{17}\rho^2}}{T^2} + \frac{A_{11}^*\rho^3 e^{-A_{17}\rho^2}}{T^3} + \frac{A_{12}^*\rho^3 e^{-A_{17}\rho^2}}{T^4}$$

$$+ \frac{A_{13}\rho^5 e^{-A_{17}\rho^2}}{T^2} + \frac{\overset{*}{A}_{14}\rho^5 e^{-A_{17}\rho^2}}{T^3} + \frac{\overset{*}{A}_{15}\rho^5 e^{-A_{17}\rho^2}}{T^4} + A_{16}\rho^6 \ldots \quad (7)$$

The starred terms are additions to the original BWR equation.

3.2 Regions of Application

Equation (7) first was applied to the entire set of PVT data. The coefficient A_{17} was varied over a wide range of values. A final value of 0.0018 was adopted and is used in both of the following regions of application. These regions were selected to obtain the best possible fit along one side of the two phase boundary, without having to fit the other side at the same time.

(1) The High Temperature Region. The following experimental points were used to determine the coefficients of the PVT surface:

All experimental points at $T \geq 33°K$;
all experimental points at $T \geq 33°K$ and $\rho < \rho_c$;
all saturated vapor line points (these were doubly weighted).

(2) The Compressed Liquid Region. The data used to determine the coefficients include:

All experimental points with $T \leq 40°K$ and $\rho > \rho_c$;
all points on saturated liquid line (doubly weighted).

The Coefficients for (7) as determined by least squares are:

	High Temperature	Compressed Liquid
A_1	$.8208199823 \times 10^{+2}$	$.8208199823 \times 10^{+2}$
A_2	$.2062278898 \times 10^{+2}$	$.6374020840 \times 10^{+2}$
A_3	$-.1292792029 \times 10^{+6}$	$-.3539180407 \times 10^{+6}$
A_4	$-.7237230137 \times 10^{+7}$	$-.4810952457 \times 10^{+7}$
A_5	$.1159242745 \times 10^{+9}$	$.9127883349 \times 10^{+8}$
A_6	$-.1010879875 \times 10^{+11}$	$-.8816106422 \times 10^{+10}$
A_7	$.3176293970 \times 10^{+3}$	$-.1283735749 \times 10^{+4}$
A_8	$.2581305967 \times 10^{+7}$	$.8076213444 \times 10^{+7}$
A_9	$.2410669065 \times 10^{+6}$	$.1425160973 \times 10^{+7}$
A_{10}	$-.1070380625 \times 10^{+11}$	$.6410245277 \times 10^{+10}$
A_{11}	$.1016369054 \times 10^{+13}$	$.1085162913 \times 10^{+12}$
A_{12}	$-.1938431002 \times 10^{+14}$	$-.2930340262 \times 10^{+13}$
A_{13}	$.3857308627 \times 10^{+13}$	$-.5235483345 \times 10^{+13}$
A_{14}	$-.6757463236 \times 10^{+15}$	$-.2551114380 \times 10^{+15}$
A_{15}	$.1462114653 \times 10^{+17}$	$.4732799310 \times 10^{+16}$
A_{16}	$.5254992259 \times 10^{+11}$	$.3522327774 \times 10^{+11}$
A_{17}	$.1800100800 \times 10^{+4}$	$.1800100800 \times 10^{+4}$

3. 3 Deviations

In the calculation of densities or specific volumes for pressures greater than critical, the compressed liquid PVT surface of (7) was assumed to be valid for temperatures less than or equal to 32°K, while the high temperature PVT surface was used for temperatures greater than or equal to 33°K.

Some continuity of these independently-defined PVT surfaces at their common boundary (32-33°K, at densities > ρ_c) was achieved by determining the constants for the compressed liquid surface with data extending up to 40°K into the high temperature region. The densities were not smoothed from one surface to the other. All derived properties, however, were smoothed from one surface to the other (see sec. 4.4).

For the high temperature PVT surface the greatest deviations between the surface and the experimental data occur near the critical point. Schematic deviations from isotherms are shown greatly exaggerated in Fig. 1. Near the critical point $(\partial P/\partial \rho)_T \approx 0$. The pressures are approximated with reasonable deviations; the densities however, are subject to large deviations, i.e., up to 16%. For this reason computations on isobars between 10 atm and 15 atm were omitted intentionally. Computations utilizing (7) in this area may be subject to serious errors. The deviations of the approximate PVT surface along the saturated vapor line are 0% deviation in density at 22°K, 0.06% at 28°K, and 16% at 32.795°K.

For the compressed liquid PVT surface the greatest deviations again occur along the saturated liquid line. At 20°K the calculated pressure is 0.18 atm or 20% too low. The deviation falls off to 1.5% at 22°K and is negligible above 24°K.

For other regions the deviations are sufficiently small to be summarized as mean deviations:

Surface	Density	Pressure
High temperature	±0.00046 mole/cm^3 or ±0.35%	±0.18 atm or ±0.3%
Compressed liquid	±0.00027 mole/cm^3 or ±0.14%	±0.1 atm or ±0.9%

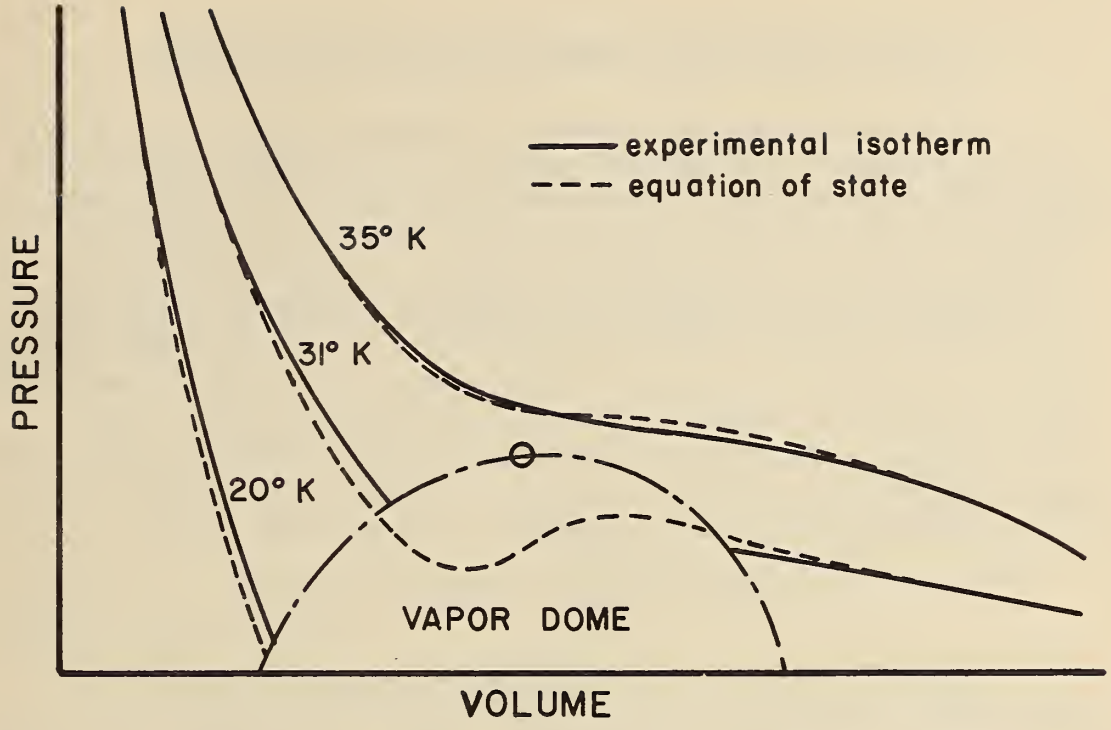


FIGURE 1 SCHEMATIC DEVIATIONS ALONG ISOTHERMS

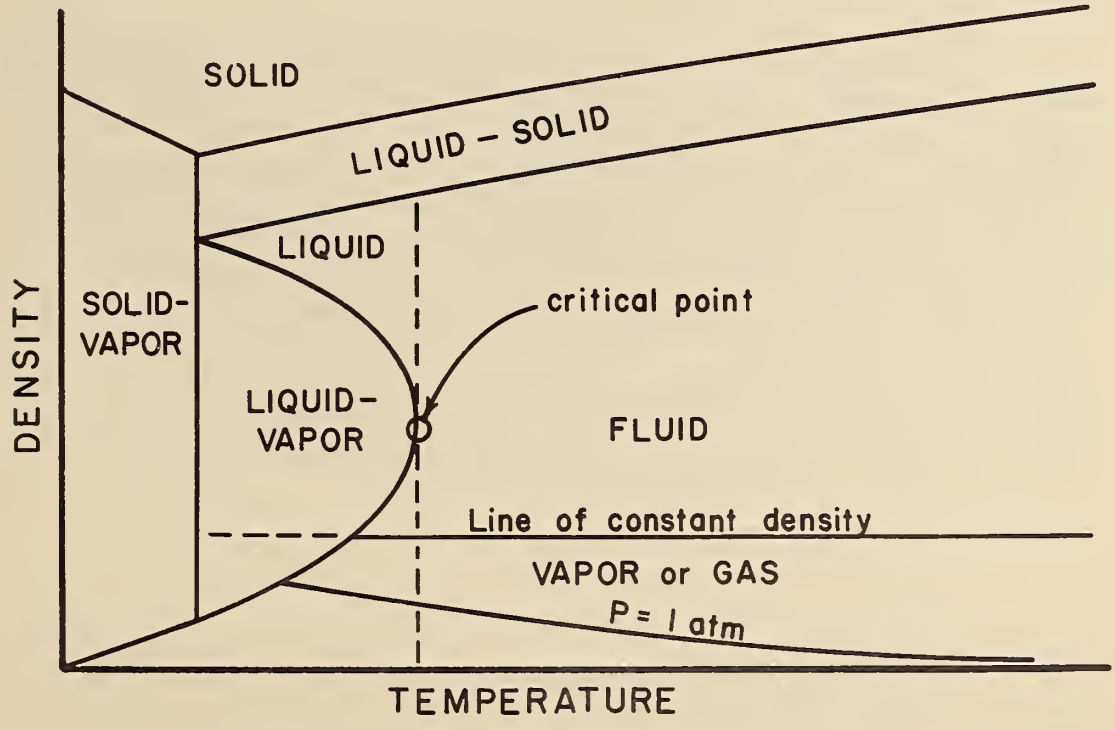


FIGURE 2 SCHEMATIC PHASE DIAGRAM

4. THE DERIVED THERMODYNAMIC FUNCTIONS

The computed thermodynamic functions presented here are entropy, enthalpy, and internal energy. For practical applications pressure is required as an independent variable. For computational purposes, however, density is selected as an independent variable to obtain well-behaved functions. Computations follow horizontal or vertical paths on a density vs. temperature diagram as shown in Figure 2. PVT data are required for computation on paths of constant temperature, while specific heat data are required for computation on paths of constant density or pressure. The following sections discuss the reference values, the equations used in the high temperature and compressed liquid regions respectively, the transition between the two regions, and possible errors.

4.1 The baseline or reference values

Specific heat data for the ideal gas are given by Woolley, Scott, and Brickwedde [1948]. These specific heats and the thermodynamic functions derived from them constitute the reference values for computation of the thermodynamic functions in all other states of the fluid by means of PVT data.

For the compressed liquid region the following considerations apply. The vertical paths of computation with PVT data on the ρ-T diagram are blocked below the critical temperature by the coexistence region. Hence a new baseline for thermodynamic functions is established along the saturated liquid line of the phase diagram (Fig. 2). Computations are carried to the co-existence region at the boiling point by means of the virial coefficients, and are carried across the co-existence region by means of the heat of vaporization (sec. 2.6). Properties of the saturated liquid at temperatures other than the boiling point are then computed by means of the specific heat of the saturated liquid (sec. 2.7), the vapor pressure (sec. 2.3), and the saturated liquid density (sec. 2.4).

4.2 Equations used in the high temperature region

To compute enthalpy:

$$H_{T,\rho} = H^{o}_{T_o} + \int_{T_o}^{T} C^{o}_{p}\, dT + RT(Z-1) + \int_{o}^{\rho} \left[\frac{P}{\rho^2} - \frac{T}{\rho^2} \left(\frac{\partial P}{\partial T} \right)_{\rho} \right]_{T} d\rho \quad (8)$$

where H^{o}_{To} is the molal enthalpy of the ideal gas at the normal boiling point. The symbol H^{o}_{To} is used for brevity in place of $H^{o}_{20.268} - H^{\circ}_{0}$.

To compute entropy:

$$S_{T,\rho} = S^{*}_{To} + \int_{To}^{T} C^{o}_{p}\, \frac{dT}{T} - R\ell n\, \frac{P}{Z} + \int_{o}^{\rho} \left[\frac{R}{\rho} - \frac{1}{\rho^2} \left(\frac{\partial P}{\partial T} \right)_{\rho} \right] d\rho \quad (9)$$

where S^{*}_{To} is the molal entropy of the ideal gas at 1 atm. at the normal boiling point.

To compute internal energy:

$$U_{T,\rho} = H_{T,\rho} - P \cdot V \quad (10)$$

Normally the values of enthalpy and entropy for the saturated vapor at the boiling point are calculated from (8) and (9) expressing the PVT behavior by virial coefficients. If the PVT behavior is expressed by (7) the following deviations result: + 0.201 cal/g, + 0.013 cal/g°K. For subsequent comparisons with more accurate values of the thermodynamic functions, it is convenient to establish a defined agreement of values for the vapor at the boiling point. For computations with (7), therefore, the following arbitrary values for the constants in (8) and (9) are selected, differing by above amounts from those of Woolley, Scott and Brickwedde [1948]

$$S^{*}_{20.268} = 7.319 \text{ cal/g°K and}$$

$$H^{o}_{20.268} = 50.177 \text{ cal/g.}$$

4.3 Equations used in the compressed liquid region

To compute enthalpy:

$$H_{T,\rho} = H_{T,\rho\ sat} + \int_{\rho\ sat}^{\rho} \left[\frac{P}{\rho^2} - \frac{T}{\rho^2} \left(\frac{\partial P}{\partial T} \right)_{\rho} \right]_T d\rho + \frac{P}{\rho} - \frac{P_{sat}}{\rho_{sat}} \quad (11)$$

To compute entropy:

$$S_{T,\rho} = S_{T,\rho\ sat} + \int_{\rho\ sat}^{\rho} \left[-\frac{1}{\rho^2} \left(\frac{\partial P}{\partial T} \right)_{\rho} \right]_T d\rho \quad (12)$$

To compute internal energy, equation (10) was used.

4.4 The transition between the two regions

The two regions were matched for all pressures greater than 15 atm by utilizing differencing techniques and the empirical relations (13) and (14)

$$\text{Adjustment in } S = A_1 + B_1 \cdot P \quad (13)$$

$$\text{Adjustment in } H = A_2 + (B_2 \cdot T) \cdot P \quad (14)$$

The adjustments calculated for the 31 and 32°K isotherms are added to the values computed from the compressed liquid PVT surface, while those for the 33 thru 37°K isotherms are added to the values calculated from the high temperature PVT surface. The smoothing was checked for consistency on a final plot of isobars and isotherms in enthalpy vs. entropy co-ordinates. Minima in the isotherms are in good agreement with the Joule-Thomson inversion characteristics of normal hydrogen as given by Woolley, Scott and Brickwedde [1948]. Table 2 gives the parameters used in (13) and (14)

Table 2

Adjustments in entropy and enthalpy 31-37°K

T°K	A_1	B_1	A_2	$(B_2 \cdot T)$
31	.00282	$-.132 \times 10^{-5}$	.087	-4.1×10^{-5}
32	.02134	$-.464 \times 10^{-5}$	.637	-14.8×10^{-5}
33	.11576	-4.792×10^{-5}	3.954	-158.1×10^{-5}
34	.06626	-3.688×10^{-5}	2.284	-125.4×10^{-5}
35	.03494	-2.964×10^{-5}	1.213	-103.7×10^{-5}
36	.01579	-2.144×10^{-5}	.554	-77.2×10^{-5}
37	.00496	-1.084×10^{-5}	.184	-40.1×10^{-5}

4.5 Discussion of Errors

Reliable determination of uncertainties in thermodynamic networks is a difficult task. This disucssion is necessarily brief. The difference between the computed reference values at the boiling point and those computed from virial coefficients has already been stated (sec. 4.2). The adjustments between high temperature and compressed liquid regions have also been discussed (sec. 4.4).

An error of 4% in the saturated vapor volume at 10 atm, resulting from substitution of the PVT surface of (7) for experimental data, leads directly to an error of 4% in the heat of vaporization, and thus directly to equivalent errors of 0.074 cal/g°K in the entropy and of 2.316 cal/g in the enthalpy of the saturated vapor at 10 atm.

In the compressed liquid region it is possible to compare the derived entropies with values computed from preliminary measurements of specific heat at the constant, triple-point density and the triple-point liquid thermal functions as established in Section 4.1 [Younglove 1962]. Disagreement in entropy is 1.1% (equivalent to 5 atm on T-S chart) at 23°K, and is 2.7% (equivalent to 24 atm on T-S chart) at 42°K, the specific heat data in each case indicating a lower value of entropy than given here.

Along the 100°K isotherm the agreement with other data is exceedingly good (see sec. 5).

5. EXTENSION OF THE TABULATED VALUES TO 300°K

The data of Goodwin [1961, 1962] are limited to temperatures below 100°K. It is possible to extend the tabulations presented here to 300°K on isobars between 1 atm and 100 atm by using published thermal data for normal hydrogen and the interpolation and conversion procedure proposed by Dean [1961].

The values thus obtained are adjusted slightly to fit smoothly to Goodwin's [1961, 1962] data in the two independent variables, specific volume and enthalpy. Internal energy and entropy are then recalculated from the smoothed values. The adjustments in specific volume and enthalpy were made as follows. The first difference $(100°K - 101°K)_{calc}$ was set equal to the average of the first differences $(99°K - 100°K)_{Goodwin}$ and $(101°K - 102°K)_{Dean}$.

The value at 101°K$_{calc}$ was then calculated from 100°K$_{Goodwin}$ by means of this adjusted first difference. Finally the resulting difference between 101°K$_{calc}$ and 101°K$_{Dean}$ was applied to all of Dean's entries up to 300°K. The values of these actual adjustments as well as the percentage for all isobars at 101°K is given in Table 3. Irregularities in Table 3 occur because (7) is assumed to yield smooth results, while Dean uses 3 different interpolations and changes the order of interpolation within a set of computations.

Table 3

Adjustments in specific volume and enthalpy at 101°K

Pressure Atm	Delta H cal/g	Per cent Delta H	Delta V cm^3/g	Per cent Delta V
1.0	0.2380	0.090	1.1259	0.027
2.0	0.2150	0.081	0.4475	0.022
3.0	0.1930	0.073	0.2250	0.016
4.0	0.1690	0.064	0.1180	0.011
5.0	0.1480	0.056	0.0568	0.007
6.0	0.1280	0.048	0.0149	0.002
7.0	0.1060	0.040	-0.0177	-0.003
8.0	0.0850	0.032	-0.0650	-0.012
9.0	0.0660	0.025	-0.1168	-0.026
10.0	0.0440	0.017	-0.1629	-0.040
15.0	-0.0560	-0.022	-0.2708	-0.099
20.0	-0.1380	-0.053	-0.1347	-0.066
25.0	-0.2080	-0.081	-0.0793	-0.048
30.0	-0.2750	-0.108	-0.0725	-0.053
35.0	-0.3540	-0.140	-0.0566	-0.048
40.0	-0.4040	-0.160	-0.0398	-0.038
45.0	-0.4200	-0.167	-0.0239	-0.026
50.0	-0.4210	-0.168	-0.0100	-0.012
60.0	-0.5290	-0.214	0.0182	0.026
70.0	-0.4780	-0.195	0.0337	0.056
80.0	-0.4720	-0.194	0.0443	0.083
90.0	-0.4710	-0.195	0.0504	0.106
100.0	-0.4540	-0.189	0.0563	0.129

6. DESCRIPTION OF THE PROVISIONAL THERMODYNAMIC CHARTS

Temperature-entropy and enthalpy-entropy charts are included as Figures D-20A, D-21A and D-22A. The intersections of lines of constant density and lines of constant enthalpy with isobars are required for accurate plots in addition to the values given in Section 9. These additional state points were obtained and utilized as outlined below.

6.1 T-S chart, 20 - 100°K

Intersections of isobars, with lines of constant enthalpy and constant density, were computed by interative procedures using equations (7), (8), (9), (11), and (12), except in the range of temperatures from 31° to 37°K for densities above critical density. In the latter range the values tabulated in Section 9 were used to obtain graphical interpolations.

Additional values of entropy along lines of constant density were computed at intermediate values of temperature as needed.

Values of $H_{T, \rho_{sat}}$ and $S_{T, \rho_{sat}}$, for use in (11) and (12) at intermediate temperatures, were determined by parabolic interpolation.

The properties for the two-phase region were determined for each isobar using the saturated liquid and vapor properties listed in Section 9.

6.2 T-S chart, 80 - 300°K

Values in Section 9 were used for temperatures from 100° to 300°K in the construction of this T-S chart. The particular values used in the determination of the constant property lines were obtained by parabolic interpolation. The values from 80° to 100°K are the same as those used on the T-S chart from 20° to 100°K. The constant property lines for this temperature range were determined as outlined above.

6.3 H-S chart, 20 - 60°K

The values of the properties were calculated as outlined in section 6.1. In addition, values of enthalpy and entropy at the intersections of the constant temperature and the constant density lines were computed and plotted.

7. ACKNOWLEDGEMENTS

This report incorporates results of research programs in three different sections of the Cryogenic Engineering Division under R. B. Scott. The continuing experimental program under R. J. Corruccini is conducted by a group including the authors, D. E. Diller, L. A. Weber, and B. A. Younglove. A program under B. W. Birmingham for computation and correlation of thermal properties of cryogenic fluids from published data has been conducted by J. W. Dean, D. B. Mann and T. R. Strobridge. Thermal properties of hydrogen above 100°K were computed by Dean. Correlation of properties across the boundary at 100°K and computer programming for the final tabulations were performed by Mann. The several computer programs required for examination of his modified B. W. R. equation, and for its application to the computation of thermal properties, were developed by Strobridge. The cryogenic data compilation program under V. J. Johnson provided the assistance of R. D. McCarty and R. B. Stewart who programmed the interpolation procedures for use of the digital plotter in preparing the charts. The quality of these charts is due to the painstaking draftsmanship of R. D. Weekley, L. J. Ericks and T. W. Griffith, and careful checking by McCarty and Stewart.

8. REFERENCES

Benedict, M., G. B. Webb and L. C. Rubin, An empirical equation for thermodynamic properties of light hydrocarbons and their mixtures, J. Chem. Phys. 8, No. 4, 334-345 (April 1940).

Dean, J. W., A tabulation of thermodynamic properties of n-hydrogen from low temperatures to 300°K and from 1 to 100 atm, NBS TN #120 (PB161621), Nov., 1961.

Goodwin, R. D., Apparatus for determination of pressure-density-temperature relations and specific heats of hydrogen to 350 atmospheres at temperatures above 10°K, J. Research NBS 65C, (Engineering & Instrumentation), No. 4, 231-243 (Oct-Dec., 1961).

Goodwin, R. D., to be published, (1962).

Goodwin, R. D., D. E. Diller, H. M. Roder and L. A. Weber, The densities of saturated liquid hydrogen, Cryogenics 2, (2), 81-83 (Dec., 1961).

Hoge, H. J., and R. D. Arnold, Vapor pressures of hydrogen, deuterium, and hydrogen deuteride and dew-point pressures of their mixtures, J. Research NBS 47, No. 2, 63-74 (Aug., 1951).

Hoge, H. J., and J. W. Lassiter, Critical temperatures, pressures, and volumes of hydrogen, deuterium, and hydrogen deuteride, J. Research NBS 47, No. 2, 75-79 (Aug., 1951).

Hou, Y. C., and J. J. Martin, Physical and thermodynamic properties of trifluoromethane, A. I. Ch. E. Journal 5, No. 1, 125-129 (Mar., 1959).

Johnston, H. L., J. T. Clarke, E. B. Rifkin and E. C. Kerr, Condensed gas calorimetry. I. Heat capacities, latent heats and entropies of pure para-hydrogen from 12.7 to 20.3°K. Description of the condensed gas calorimeter in use in the cryogenic laboratory of the Ohio State University, J. Am. Chem. Soc. 72, No. 9, 3933-3938 (Sept., 1950).

Osborne, N. S., and M. S. Van Dusen, Specific heat of liquid ammonia (saturation), J. Am. Chem. Soc. 40, No. 1, (Jan., 1918).

Strobridge, T. R., The thermodynamic properties of nitrogen from 64 to 300°K between 0.1 and 200 atmospheres, NBS TN #129 (PB161630), January, 1962.

Woolley, H. W., R. B. Scott and F. G. Brickwedde, Compilation of thermal properties of hydrogen in its various isotopic and ortho-para modifications, J. Research NBS 41, No. 5, 379-475 (Nov., 1948).

Younglove, B. A., to be published J. Research NBS, (1962).

9. THE TABLES OF PROVISIONAL THERMODYNAMIC FUNCTIONS FOR PARA-HYDROGEN

The following 26 pages of tables present 35 isobars, distributed as follows: 1 to 10 atm. by 1; 15 to 50 atm. by 5; 60 to 100 atm. by 10; and 120 to 340 atm. by 20. Column headings also give the units.

1.00 ATMOSPHERE ISOBAR

	TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)	TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)
	20.00	14.06	-258.23	-259.66	7.889					
*	20.268	14.13	-255.65	-257.08	8.017					
*	20.268	746.07	190.21	114.61	30.016	91.00	3702.82	975.55	600.36	46.586
	21.00	781.25	199.44	120.28	30.464	92.00	3743.72	988.26	608.93	46.725
	22.00	827.95	211.50	127.60	31.025	93.00	3784.61	1001.06	617.58	46.864
	23.00	873.57	223.12	134.61	31.542	94.00	3825.50	1013.95	626.33	47.001
	24.00	918.44	234.47	141.41	32.025	95.00	3866.39	1026.92	635.16	47.139
	25.00	962.77	245.63	148.07	32.480	96.00	3907.27	1039.98	644.07	47.275
	26.00	1006.68	256.64	154.64	32.912	97.00	3948.14	1053.12	653.07	47.412
	27.00	1050.26	267.57	161.15	33.325	98.00	3989.02	1066.34	662.16	47.547
	28.00	1093.59	278.42	167.61	33.719	99.00	4029.89	1079.65	671.33	47.682
	29.00	1136.69	289.21	174.04	34.098	100.00	4070.75	1093.04	680.57	47.817
	30.00	1179.61	299.96	180.44	34.462					
	31.00	1222.37	310.67	186.82	34.814	101.00	4111.60	1106.52	689.90	47.951
	32.00	1264.99	321.36	193.19	35.153	102.00	4152.44	1120.08	699.32	48.085
	33.00	1307.48	332.02	199.54	35.481	103.00	4193.27	1133.72	708.83	48.218
	34.00	1349.86	342.66	205.89	35.799	104.00	4234.09	1147.45	718.42	48.350
	35.00	1392.15	353.28	212.23	36.106	105.00	4274.92	1161.26	728.09	48.482
	36.00	1434.34	363.89	218.55	36.405	106.00	4315.74	1175.15	737.85	48.614
	37.00	1476.44	374.48	224.88	36.695	107.00	4356.55	1189.13	747.69	48.745
	38.00	1518.47	385.05	231.20	36.977	108.00	4397.37	1203.18	757.61	48.876
	39.00	1560.43	395.62	237.51	37.252	109.00	4438.18	1217.31	767.60	49.006
	40.00	1602.32	406.18	243.82	37.519	110.00	4478.99	1231.53	777.68	49.136
	41.00	1644.15	416.73	250.14	37.780	111.00	4519.80	1245.82	787.83	49.265
	42.00	1685.92	427.27	256.45	38.034	112.00	4560.61	1260.18	798.07	49.394
	43.00	1727.64	437.81	262.76	38.282	113.00	4601.42	1274.62	808.37	49.523
	44.00	1769.32	448.34	269.07	38.524	114.00	4642.22	1289.14	818.75	49.651
	45.00	1810.94	458.88	275.39	38.761	115.00	4683.03	1303.73	829.21	49.778
	46.00	1852.53	469.41	281.70	38.992	116.00	4723.84	1318.39	839.73	49.905
	47.00	1894.07	479.95	288.03	39.219	117.00	4764.64	1333.12	850.33	50.031
	48.00	1935.58	490.49	294.36	39.441	118.00	4805.45	1347.92	860.99	50.157
	49.00	1977.05	501.03	300.70	39.658	119.00	4846.26	1362.79	871.73	50.283
	50.00	2018.49	511.57	307.05	39.871	120.00	4887.07	1377.72	882.53	50.408
	51.00	2059.90	522.13	313.41	40.080	121.00	4927.87	1392.71	893.38	50.532
	52.00	2101.28	532.70	319.79	40.285	122.00	4968.68	1407.76	904.30	50.656
	53.00	2142.63	543.28	326.18	40.487	123.00	5009.49	1422.88	915.28	50.779
	54.00	2183.96	553.87	332.58	40.685	124.00	5050.31	1438.05	926.32	50.902
	55.00	2225.26	564.48	339.00	40.879	125.00	5091.12	1453.28	937.41	51.025
	56.00	2266.54	575.10	345.45	41.071	126.00	5131.90	1468.58	948.57	51.146
	57.00	2307.80	585.75	351.91	41.259	127.00	5172.68	1483.92	959.79	51.268
	58.00	2349.03	596.42	358.40	41.445	128.00	5213.46	1499.33	971.06	51.389
	59.00	2390.25	607.11	364.92	41.628	129.00	5254.24	1514.78	982.38	51.509
	60.00	2431.44	617.83	371.46	41.808	130.00	5295.02	1530.29	993.76	51.629
	61.00	2472.62	628.57	378.04	41.985	131.00	5335.79	1545.85	1005.19	51.748
	62.00	2513.79	639.35	384.64	42.161	132.00	5376.57	1561.46	1016.66	51.867
	63.00	2554.93	650.16	391.28	42.334	133.00	5417.34	1577.11	1028.18	51.985
	64.00	2596.07	661.01	397.96	42.504	134.00	5458.12	1592.81	1039.75	52.102
	65.00	2637.18	671.89	404.68	42.673	135.00	5498.89	1608.56	1051.37	52.219
	66.00	2678.29	682.82	411.44	42.840	136.00	5539.66	1624.35	1063.03	52.336
	67.00	2719.38	693.78	418.24	43.005	137.00	5580.44	1640.18	1074.73	52.452
	68.00	2760.46	704.79	425.09	43.168	138.00	5621.21	1656.05	1086.47	52.567
	69.00	2801.52	715.85	431.99	43.329	139.00	5661.98	1671.96	1098.24	52.682
	70.00	2842.58	726.96	438.94	43.489	140.00	5702.76	1687.91	1110.06	52.796
	71.00	2883.62	738.12	445.94	43.648	141.00	5743.53	1703.89	1121.91	52.910
	72.00	2924.66	749.33	452.99	43.804	142.00	5784.30	1719.91	1133.80	53.023
	73.00	2965.68	760.61	460.11	43.960	143.00	5825.08	1735.96	1145.72	53.136
	74.00	3006.70	771.94	467.29	44.114	144.00	5865.85	1752.04	1157.67	53.248
	75.00	3047.70	783.33	474.52	44.267	145.00	5906.62	1768.15	1169.65	53.360
	76.00	3088.70	794.78	481.83	44.419	146.00	5947.40	1784.29	1181.65	53.471
	77.00	3129.69	806.31	489.19	44.569	147.00	5988.17	1800.46	1193.69	53.581
	78.00	3170.67	817.90	496.63	44.719	148.00	6028.95	1816.65	1205.75	53.691
	79.00	3211.64	829.55	504.13	44.867	149.00	6069.72	1832.87	1217.83	53.800
	80.00	3252.61	841.29	511.72	45.015	150.00	6110.50	1849.10	1229.94	53.909
	81.00	3293.57	853.09	519.37	45.162	151.00	6151.25	1865.31	1242.02	54.016
	82.00	3334.52	864.97	527.10	45.307	152.00	6192.01	1881.53	1254.11	54.123
	83.00	3375.46	876.93	534.91	45.452	153.00	6232.77	1897.77	1266.22	54.230
	84.00	3416.40	888.97	542.80	45.597	154.00	6273.52	1914.03	1278.35	54.336
	85.00	3457.34	901.09	550.77	45.740	155.00	6314.28	1930.30	1290.49	54.441
	86.00	3498.26	913.29	558.83	45.883	156.00	6355.03	1946.58	1302.64	54.546
	87.00	3539.19	925.57	566.96	46.025	157.00	6395.79	1962.88	1314.80	54.650
	88.00	3580.10	937.94	575.18	46.166	158.00	6436.54	1979.18	1326.98	54.753
	89.00	3621.02	950.39	583.49	46.307	159.00	6477.30	1995.50	1339.17	54.856
	90.00	3661.92	962.93	591.89	46.447	160.00	6518.05	2011.82	1351.36	54.959

* PHASE CHANGE

TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)	TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)
161.00	6558.81	2028.15	1363.57	55.060	231.00	9410.53	3154.54	2200.99	60.878
162.00	6599.56	2044.49	1375.78	55.162	232.00	9451.29	3170.13	2212.45	60.946
163.00	6640.32	2060.84	1387.99	55.262	233.00	9492.05	3185.70	2223.89	61.013
164.00	6681.07	2077.19	1400.21	55.362	234.00	9532.81	3201.25	2235.32	61.079
165.00	6721.83	2093.55	1412.44	55.462	235.00	9573.56	3216.79	2246.73	61.146
166.00	6762.59	2109.91	1424.67	55.560	236.00	9614.31	3232.32	2258.12	61.212
167.00	6803.34	2126.27	1436.90	55.659	237.00	9655.06	3247.82	2269.50	61.277
168.00	6844.10	2142.64	1449.14	55.756	238.00	9695.80	3263.31	2280.86	61.342
169.00	6884.86	2159.00	1461.37	55.854	239.00	9736.54	3278.78	2292.20	61.407
170.00	6925.61	2175.37	1473.61	55.950	240.00	9777.27	3294.24	2303.53	61.472
171.00	6966.36	2191.73	1485.85	56.046	241.00	9817.99	3309.68	2314.84	61.536
172.00	7007.11	2208.10	1498.08	56.142	242.00	9858.71	3325.10	2326.14	61.600
173.00	7047.85	2224.46	1510.32	56.236	243.00	9899.43	3340.51	2337.42	61.663
174.00	7088.60	2240.82	1522.55	56.331	244.00	9940.13	3355.90	2348.69	61.727
175.00	7129.34	2257.18	1534.78	56.424	245.00	9980.83	3371.27	2359.94	61.789
176.00	7170.08	2273.54	1547.01	56.518	246.00	10021.53	3386.63	2371.18	61.852
177.00	7210.83	2289.89	1559.23	56.610	247.00	10062.21	3401.98	2382.40	61.914
178.00	7251.57	2306.23	1571.45	56.702	248.00	10102.89	3417.30	2393.60	61.976
179.00	7292.31	2322.57	1583.66	56.794	249.00	10143.56	3432.61	2404.79	62.038
180.00	7333.05	2338.90	1595.86	56.885	250.00	10184.22	3447.91	2415.97	62.099
181.00	7373.79	2355.23	1608.06	56.975	251.00	10224.87	3463.23	2427.16	62.160
182.00	7414.53	2371.55	1620.25	57.065	252.00	10265.51	3478.53	2438.35	62.221
183.00	7455.27	2387.86	1632.43	57.155	253.00	10306.15	3493.81	2449.52	62.282
184.00	7496.01	2404.16	1644.60	57.243	254.00	10346.78	3509.09	2460.67	62.342
185.00	7536.75	2420.45	1656.77	57.332	255.00	10387.40	3524.34	2471.81	62.402
186.00	7577.49	2436.73	1668.92	57.419	256.00	10428.02	3539.59	2482.94	62.461
187.00	7618.23	2453.00	1681.07	57.507	257.00	10468.62	3554.81	2494.05	62.521
188.00	7658.97	2469.27	1693.20	57.593	258.00	10509.22	3570.03	2505.15	62.580
189.00	7699.71	2485.52	1705.32	57.680	259.00	10549.82	3585.23	2516.24	62.639
190.00	7740.45	2501.76	1717.43	57.765	260.00	10590.41	3600.42	2527.32	62.697
191.00	7781.19	2517.98	1729.53	57.851	261.00	10630.99	3615.60	2538.38	62.755
192.00	7821.93	2534.20	1741.62	57.935	262.00	10671.58	3630.76	2549.43	62.813
193.00	7862.67	2550.40	1753.70	58.019	263.00	10712.15	3645.91	2560.47	62.871
194.00	7903.40	2566.59	1765.76	58.103	264.00	10752.73	3661.05	2571.50	62.929
195.00	7944.14	2582.77	1777.81	58.186	265.00	10793.31	3676.18	2582.52	62.986
196.00	7984.88	2598.93	1789.84	58.269	266.00	10833.88	3691.30	2593.52	63.043
197.00	8025.62	2615.08	1801.86	58.351	267.00	10874.46	3706.40	2604.52	63.099
198.00	8066.36	2631.22	1813.87	58.433	268.00	10915.04	3721.50	2615.50	63.156
199.00	8107.09	2647.34	1825.86	58.514	269.00	10955.62	3736.58	2626.48	63.212
200.00	8147.83	2663.44	1837.84	58.595	270.00	10996.21	3751.66	2637.44	63.268
201.00	8188.56	2679.52	1849.80	58.675	271.00	11036.80	3766.73	2648.39	63.324
202.00	8229.28	2695.59	1861.73	58.755	272.00	11077.40	3781.78	2659.34	63.379
203.00	8270.01	2711.64	1873.66	58.834	273.00	11118.01	3796.83	2670.27	63.434
204.00	8310.73	2727.68	1885.57	58.913	274.00	11158.63	3811.87	2681.20	63.489
205.00	8351.45	2743.69	1897.46	58.991	275.00	11199.25	3826.91	2692.11	63.544
206.00	8392.18	2759.70	1909.34	59.069	276.00	11239.89	3841.93	2703.02	63.599
207.00	8432.90	2775.69	1921.20	59.146	277.00	11280.55	3856.95	2713.92	63.653
208.00	8473.63	2791.66	1933.05	59.223	278.00	11321.21	3871.96	2724.81	63.707
209.00	8514.35	2807.62	1944.88	59.300	279.00	11361.90	3886.97	2735.69	63.761
210.00	8555.08	2823.56	1956.69	59.376	280.00	11402.59	3901.97	2746.57	63.815
211.00	8595.80	2839.48	1968.49	59.452	281.00	11443.31	3916.96	2757.44	63.868
212.00	8636.53	2855.39	1980.27	59.527	282.00	11484.04	3931.95	2768.30	63.921
213.00	8677.26	2871.28	1992.03	59.602	283.00	11524.79	3946.93	2779.15	63.974
214.00	8717.99	2887.15	2003.78	59.676	284.00	11565.56	3961.91	2790.00	64.027
215.00	8758.72	2903.01	2015.51	59.750	285.00	11606.35	3976.88	2800.83	64.080
216.00	8799.45	2918.85	2027.23	59.823	286.00	11647.16	3991.85	2811.67	64.132
217.00	8840.18	2934.68	2038.93	59.897	287.00	11687.99	4006.81	2822.49	64.184
218.00	8880.91	2950.49	2050.61	59.969	288.00	11728.84	4021.77	2833.31	64.237
219.00	8921.64	2966.28	2062.27	60.041	289.00	11769.71	4036.72	2844.12	64.288
220.00	8962.38	2982.06	2073.92	60.113	290.00	11810.60	4051.67	2854.93	64.340
221.00	9003.12	2997.82	2085.56	60.185	291.00	11851.51	4066.61	2865.72	64.391
222.00	9043.85	3013.56	2097.17	60.256	292.00	11892.43	4081.55	2876.52	64.443
223.00	9084.59	3029.29	2108.77	60.327	293.00	11933.37	4096.48	2887.30	64.494
224.00	9125.33	3045.00	2120.36	60.397	294.00	11974.32	4111.41	2898.08	64.545
225.00	9166.07	3060.70	2131.92	60.467	295.00	12015.29	4126.33	2908.85	64.595
226.00	9206.81	3076.38	2143.47	60.536	296.00	12056.27	4141.25	2919.62	64.646
227.00	9247.55	3092.04	2155.01	60.605	297.00	12097.25	4156.16	2930.37	64.696
228.00	9288.29	3107.69	2166.53	60.674	298.00	12138.25	4171.07	2941.13	64.746
229.00	9329.03	3123.32	2178.03	60.743	299.00	12179.24	4185.96	2951.87	64.796
230.00	9369.77	3138.93	2189.52	60.811	300.00	12220.24	4200.86	2962.61	64.846

2.00 ATMOSPHERE ISOBAR

	TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)	TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)
	20.00	14.03	-257.27	-260.12	7.866					
	21.00	14.27	-247.44	-250.33	8.348					
	22.00	14.54	-236.94	-239.89	8.834	91.00	1850.11	973.63	598.70	43.708
*	22.855	14.80	-227.36	-230.36	9.262	92.00	1870.65	986.38	607.29	43.848
*	22.855	394.76	201.59	121.60	28.037	93.00	1891.18	999.22	615.97	43.986
	23.00	398.71	203.66	122.87	28.127	94.00	1911.71	1012.14	624.73	44.125
	24.00	425.02	217.31	131.18	28.708	95.00	1932.24	1025.15	633.59	44.262
	25.00	450.19	230.14	138.90	29.231	96.00	1952.76	1038.25	642.52	44.399
	26.00	474.57	242.43	146.26	29.714	97.00	1973.27	1051.43	651.55	44.536
	27.00	498.39	254.36	153.36	30.164	98.00	1993.78	1064.69	660.65	44.672
	28.00	521.80	266.04	160.30	30.589	99.00	2014.29	1078.03	669.84	44.807
	29.00	544.87	277.54	167.12	30.992	100.00	2034.80	1091.46	679.11	44.942
	30.00	567.69	288.89	173.85	31.377					
	31.00	590.29	300.14	180.51	31.746	101.00	2055.29	1104.97	688.45	45.077
	32.00	612.70	311.30	187.13	32.100	102.00	2075.78	1118.56	697.89	45.211
	33.00	634.97	322.39	193.72	32.442	103.00	2096.25	1132.23	707.42	45.344
	34.00	657.09	333.42	200.26	32.771	104.00	2116.73	1145.99	717.02	45.477
	35.00	679.10	344.41	206.79	33.089	105.00	2137.20	1159.83	726.71	45.609
	36.00	701.00	355.35	213.29	33.398	106.00	2157.67	1173.75	736.49	45.741
	37.00	722.81	366.25	219.78	33.696	107.00	2178.14	1187.75	746.34	45.873
	38.00	744.52	377.13	226.25	33.986	108.00	2198.60	1201.83	756.27	46.004
	39.00	766.16	387.97	232.71	34.268	109.00	2219.07	1215.99	766.28	46.134
	40.00	787.73	398.79	239.16	34.542	110.00	2239.53	1230.23	776.38	46.264
	41.00	809.23	409.59	245.60	34.809	111.00	2259.99	1244.54	786.54	46.394
	42.00	830.68	420.37	252.04	35.069	112.00	2280.44	1258.93	796.79	46.523
	43.00	852.06	431.14	258.47	35.322	113.00	2300.90	1273.40	807.11	46.652
	44.00	873.39	441.89	264.89	35.569	114.00	2321.35	1287.94	817.50	46.780
	45.00	894.68	452.63	271.32	35.810	115.00	2341.81	1302.55	827.97	46.907
	46.00	915.92	463.35	277.74	36.046	116.00	2362.26	1317.23	838.51	47.034
	47.00	937.12	474.08	284.17	36.277	117.00	2382.71	1331.98	849.11	47.161
	48.00	958.28	484.79	290.60	36.502	118.00	2403.17	1346.80	859.79	47.287
	49.00	979.40	495.50	297.03	36.723	119.00	2423.62	1361.69	870.53	47.413
	50.00	1000.49	506.21	303.47	36.939	120.00	2444.07	1376.65	881.34	47.538
	51.00	1021.55	516.93	309.91	37.152	121.00	2464.52	1391.66	892.21	47.663
	52.00	1042.57	527.64	316.37	37.360	122.00	2484.97	1406.73	903.14	47.787
	53.00	1063.57	538.37	322.84	37.564	123.00	2505.42	1421.86	914.12	47.910
	54.00	1084.54	549.10	329.32	37.765	124.00	2525.87	1437.05	925.17	48.033
	55.00	1105.49	559.84	335.81	37.962	125.00	2546.32	1452.31	936.28	48.156
	56.00	1126.41	570.59	342.33	38.155	126.00	2566.76	1467.61	947.45	48.278
	57.00	1147.31	581.36	348.86	38.346	127.00	2587.19	1482.98	958.67	48.399
	58.00	1168.19	592.15	355.42	38.534	128.00	2607.62	1498.40	969.95	48.520
	59.00	1189.05	602.96	362.00	38.718	129.00	2628.05	1513.87	981.28	48.640
	60.00	1209.89	613.78	368.60	38.900	130.00	2648.47	1529.40	992.67	48.760
	61.00	1230.71	624.64	375.23	39.080	131.00	2668.90	1544.97	1004.10	48.880
	62.00	1251.51	635.52	381.90	39.257	132.00	2689.32	1560.59	1015.59	48.998
	63.00	1272.30	646.43	388.59	39.431	133.00	2709.75	1576.26	1027.12	49.117
	64.00	1293.07	657.37	395.33	39.604	134.00	2730.17	1591.98	1038.70	49.234
	65.00	1313.83	668.34	402.09	39.774	135.00	2750.59	1607.74	1050.32	49.352
	66.00	1334.58	679.36	408.91	39.942	136.00	2771.01	1623.55	1061.99	49.468
	67.00	1355.31	690.41	415.76	40.108	137.00	2791.43	1639.39	1073.69	49.584
	68.00	1376.03	701.51	422.65	40.272	138.00	2811.85	1655.28	1085.44	49.700
	69.00	1396.74	712.64	429.60	40.435	139.00	2832.27	1671.20	1097.23	49.815
	70.00	1417.43	723.83	436.59	40.596	140.00	2852.69	1687.16	1109.05	49.929
	71.00	1438.12	735.07	443.63	40.755	141.00	2873.11	1703.16	1120.91	50.043
	72.00	1458.79	746.35	450.73	40.913	142.00	2893.53	1719.19	1132.80	50.156
	73.00	1479.45	757.70	457.89	41.070	143.00	2913.95	1735.25	1144.73	50.269
	74.00	1500.11	769.10	465.10	41.225	144.00	2934.36	1751.35	1156.68	50.381
	75.00	1520.76	780.55	472.38	41.379	145.00	2954.78	1767.47	1168.67	50.493
	76.00	1541.39	792.08	479.71	41.531	146.00	2975.20	1783.63	1180.69	50.604
	77.00	1562.02	803.66	487.12	41.683	147.00	2995.61	1799.81	1192.73	50.714
	78.00	1582.64	815.31	494.59	41.833	148.00	3016.03	1816.01	1204.80	50.824
	79.00	1603.25	827.03	502.13	41.982	149.00	3036.44	1832.24	1216.89	50.933
	80.00	1623.86	838.82	509.75	42.131	150.00	3056.86	1848.49	1229.00	51.042
	81.00	1644.46	850.68	517.43	42.278	151.00	3077.27	1864.71	1241.09	51.150
	82.00	1665.05	862.62	525.20	42.424	152.00	3097.67	1880.95	1253.19	51.257
	83.00	1685.64	874.63	533.03	42.570	153.00	3118.07	1897.20	1265.31	51.364
	84.00	1706.22	886.72	540.95	42.715	154.00	3138.48	1913.47	1277.44	51.470
	85.00	1726.79	898.89	548.95	42.859	155.00	3158.88	1929.75	1289.59	51.575
	86.00	1747.36	911.13	557.03	43.002	156.00	3179.28	1946.05	1301.75	51.680
	87.00	1767.92	923.47	565.20	43.145	157.00	3199.69	1962.35	1313.92	51.784
	88.00	1788.47	935.88	573.45	43.286	158.00	3220.09	1978.67	1326.10	51.888
	89.00	1809.03	948.37	581.78	43.428	159.00	3240.49	1995.00	1338.30	51.991
	90.00	1829.57	960.96	590.20	43.568	160.00	3260.89	2011.34	1350.50	52.093

* PHASE CHANGE

TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)	TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)
161.00	3281.29	2027.68	1362.71	52.195	231.00	4708.26	3154.61	2200.45	58.016
162.00	3301.69	2044.03	1374.93	52.296	232.00	4728.65	3170.20	2211.91	58.083
163.00	3322.09	2060.39	1387.15	52.397	233.00	4749.04	3185.78	2223.36	58.150
164.00	3342.50	2076.76	1399.38	52.497	234.00	4769.42	3201.34	2234.79	58.217
165.00	3362.90	2093.12	1411.61	52.596	235.00	4789.81	3216.88	2246.20	58.283
166.00	3383.30	2109.50	1423.85	52.695	236.00	4810.20	3232.41	2257.60	58.349
167.00	3403.70	2125.87	1436.09	52.794	237.00	4830.58	3247.92	2268.98	58.415
168.00	3424.10	2142.24	1448.33	52.891	238.00	4850.96	3263.41	2280.34	58.480
169.00	3444.50	2158.62	1460.58	52.989	239.00	4871.34	3278.89	2291.69	58.545
170.00	3464.90	2175.00	1472.82	53.085	240.00	4891.71	3294.35	2303.02	58.609
171.00	3485.29	2191.38	1485.06	53.181	241.00	4912.09	3309.80	2314.34	58.674
172.00	3505.69	2207.75	1497.31	53.277	242.00	4932.46	3325.22	2325.63	58.737
173.00	3526.08	2224.13	1509.55	53.372	243.00	4952.82	3340.64	2336.92	58.801
174.00	3546.47	2240.50	1521.79	53.466	244.00	4973.19	3356.03	2348.19	58.864
175.00	3566.86	2256.86	1534.02	53.560	245.00	4993.55	3371.41	2359.44	58.927
176.00	3587.25	2273.23	1546.25	53.653	246.00	5013.90	3386.77	2370.68	58.990
177.00	3607.65	2289.59	1558.48	53.746	247.00	5034.26	3402.12	2381.90	59.052
178.00	3628.04	2305.94	1570.70	53.838	248.00	5054.60	3417.45	2393.11	59.114
179.00	3648.43	2322.29	1582.92	53.930	249.00	5074.95	3432.77	2404.30	59.176
180.00	3668.82	2338.63	1595.13	54.021	250.00	5095.29	3448.07	2415.48	59.237
181.00	3689.20	2354.97	1607.33	54.111	251.00	5115.62	3463.39	2426.68	59.298
182.00	3709.59	2371.29	1619.52	54.201	252.00	5135.96	3478.70	2437.87	59.359
183.00	3729.98	2387.61	1631.71	54.290	253.00	5156.28	3493.99	2449.04	59.419
184.00	3750.37	2403.92	1643.89	54.379	254.00	5176.61	3509.26	2460.20	59.480
185.00	3770.76	2420.22	1656.06	54.468	255.00	5196.93	3524.53	2471.34	59.540
186.00	3791.14	2436.51	1668.21	54.556	256.00	5217.25	3539.77	2482.47	59.599
187.00	3811.53	2452.79	1680.36	54.643	257.00	5237.56	3555.01	2493.59	59.659
188.00	3831.92	2469.06	1692.50	54.730	258.00	5257.87	3570.23	2504.69	59.718
189.00	3852.31	2485.32	1704.63	54.816	259.00	5278.18	3585.43	2515.78	59.777
190.00	3872.69	2501.57	1716.74	54.902	260.00	5298.48	3600.63	2526.86	59.835
191.00	3893.08	2517.80	1728.85	54.987	261.00	5318.78	3615.81	2537.93	59.894
192.00	3913.46	2534.02	1740.94	55.072	262.00	5339.08	3630.98	2548.98	59.952
193.00	3933.85	2550.23	1753.02	55.156	263.00	5359.38	3646.13	2560.02	60.009
194.00	3954.23	2566.43	1765.08	55.239	264.00	5379.68	3661.28	2571.05	60.067
195.00	3974.62	2582.61	1777.14	55.323	265.00	5399.98	3676.41	2582.07	60.124
196.00	3995.00	2598.78	1789.17	55.405	266.00	5420.27	3691.53	2593.08	60.181
197.00	4015.39	2614.94	1801.20	55.488	267.00	5440.57	3706.64	2604.08	60.238
198.00	4035.77	2631.08	1813.21	55.569	268.00	5460.87	3721.74	2615.07	60.294
199.00	4056.16	2647.21	1825.21	55.651	269.00	5481.17	3736.83	2626.04	60.350
200.00	4076.54	2663.32	1837.19	55.731	270.00	5501.47	3751.91	2637.01	60.406
201.00	4096.92	2679.41	1849.15	55.812	271.00	5521.77	3766.98	2647.96	60.462
202.00	4117.29	2695.48	1861.09	55.891	272.00	5542.08	3782.04	2658.91	60.517
203.00	4137.67	2711.54	1873.02	55.971	273.00	5562.39	3797.10	2669.85	60.573
204.00	4158.05	2727.58	1884.93	56.049	274.00	5582.71	3812.14	2680.77	60.628
205.00	4178.42	2743.61	1896.83	56.128	275.00	5603.03	3827.18	2691.69	60.682
206.00	4198.80	2759.62	1908.71	56.206	276.00	5623.35	3842.21	2702.60	60.737
207.00	4219.17	2775.61	1920.58	56.283	277.00	5643.69	3857.23	2713.51	60.791
208.00	4239.55	2791.59	1932.42	56.360	278.00	5664.03	3872.24	2724.40	60.845
209.00	4259.92	2807.55	1944.26	56.437	279.00	5684.37	3887.25	2735.28	60.899
210.00	4280.30	2823.50	1956.08	56.513	280.00	5704.73	3902.26	2746.16	60.953
211.00	4300.67	2839.43	1967.88	56.589	281.00	5725.09	3917.25	2757.03	61.006
212.00	4321.05	2855.34	1979.66	56.664	282.00	5745.46	3932.24	2767.89	61.060
213.00	4341.42	2871.24	1991.43	56.739	283.00	5765.84	3947.23	2778.75	61.113
214.00	4361.80	2887.12	2003.18	56.813	284.00	5786.23	3962.21	2789.60	61.166
215.00	4382.18	2902.99	2014.92	56.887	285.00	5806.63	3977.18	2800.44	61.218
216.00	4402.55	2918.84	2026.64	56.960	286.00	5827.03	3992.15	2811.27	61.271
217.00	4422.93	2934.67	2038.34	57.034	287.00	5847.45	4007.12	2822.10	61.323
218.00	4443.31	2950.49	2050.02	57.106	288.00	5867.88	4022.08	2832.92	61.375
219.00	4463.69	2966.28	2061.69	57.179	289.00	5888.32	4037.03	2843.73	61.427
220.00	4484.06	2982.07	2073.35	57.251	290.00	5908.76	4051.98	2854.54	61.478
221.00	4504.44	2997.83	2084.98	57.322	291.00	5929.22	4066.93	2865.34	61.530
222.00	4524.82	3013.58	2096.60	57.393	292.00	5949.68	4081.87	2876.13	61.581
223.00	4545.20	3029.32	2108.21	57.464	293.00	5970.15	4096.80	2886.92	61.632
224.00	4565.58	3045.03	2119.79	57.534	294.00	5990.63	4111.73	2897.70	61.683
225.00	4585.96	3060.74	2131.37	57.604	295.00	6011.11	4126.66	2908.47	61.734
226.00	4606.34	3076.42	2142.92	57.674	296.00	6031.60	4141.57	2919.24	61.784
227.00	4626.72	3092.09	2154.46	57.743	297.00	6052.09	4156.49	2930.00	61.834
228.00	4647.10	3107.74	2165.98	57.812	298.00	6072.59	4171.39	2940.75	61.885
229.00	4667.49	3123.38	2177.48	57.880	299.00	6093.09	4186.29	2951.50	61.934
230.00	4687.87	3139.00	2188.97	57.948	300.00	6113.59	4201.19	2962.24	61.984

3.00 ATMOSPHERE ISO8AR

	TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)	TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)
	20.00	14.01	-256.31	-260.56	7.843					
	21.00	14.24	-246.53	-250.86	8.323					
	22.00	14.51	-236.10	-240.51	8.805	91.00	1232.57	971.71	597.04	42.017
	23.00	14.80	-224.92	-229.42	9.304	92.00	1246.32	984.50	605.65	42.157
	24.00	15.14	-212.89	-217.49	9.818	93.00	1260.07	997.38	614.35	42.296
*	24.628	15.37	-204.82	-209.50	10.148	94.00	1273.81	1010.35	623.14	42.435
*	24.628	268.20	205.13	123.61	26.804	95.00	1287.54	1023.40	632.01	42.573
	25.00	275.62	210.97	127.18	27.039	96.00	1301.28	1036.53	640.98	42.710
	26.00	294.57	225.62	136.08	27.614	97.00	1315.01	1049.74	650.02	42.847
	27.00	312.49	239.26	144.27	28.129	98.00	1328.73	1063.05	659.14	42.984
	28.00	329.72	252.23	152.00	28.601	99.00	1342.45	1076.43	668.35	43.120
	29.00	346.45	264.74	159.43	29.040	100.00	1356.17	1089.89	677.64	43.255
	30.00	362.81	276.93	166.65	29.453					
	31.00	378.87	288.88	173.72	29.845	101.00	1369.88	1103.43	687.01	43.390
	32.00	394.69	300.65	180.68	30.219	102.00	1383.58	1117.05	696.47	43.524
	33.00	410.31	312.27	187.55	30.576	103.00	1397.27	1130.76	706.01	43.658
	34.00	425.77	323.78	194.36	30.920	104.00	1410.97	1144.55	715.64	43.791
	35.00	441.09	335.19	201.11	31.251	105.00	1424.66	1158.42	725.34	43.924
	36.00	456.28	346.52	207.82	31.570	106.00	1438.34	1172.37	735.13	44.056
	37.00	471.37	357.79	214.50	31.879	107.00	1452.03	1186.39	745.00	44.187
	38.00	486.35	368.99	221.15	32.177	108.00	1465.71	1200.50	754.95	44.319
	39.00	501.25	380.14	227.78	32.467	109.00	1479.39	1214.69	764.98	44.449
	40.00	516.07	391.25	234.38	32.748	110.00	1493.06	1228.95	775.09	44.580
	41.00	530.82	402.32	240.96	33.022	111.00	1506.74	1243.29	785.27	44.710
	42.00	545.51	413.35	247.54	33.288	112.00	1520.41	1257.71	795.53	44.839
	43.00	560.13	424.36	254.09	33.547	113.00	1534.08	1272.20	805.86	44.968
	44.00	574.70	435.34	260.64	33.799	114.00	1547.75	1286.76	816.27	45.096
	45.00	589.21	446.29	267.19	34.045	115.00	1561.42	1301.39	826.75	45.224
	46.00	603.68	457.22	273.72	34.285	116.00	1575.09	1316.10	837.30	45.351
	47.00	618.11	468.14	280.25	34.520	117.00	1588.76	1330.87	847.91	45.478
	48.00	632.49	479.04	286.78	34.750	118.00	1602.43	1345.71	858.60	45.604
	49.00	646.84	489.93	293.31	34.974	119.00	1616.09	1360.62	869.35	45.730
	50.00	661.15	500.81	299.84	35.194	120.00	1629.76	1375.59	880.17	45.855
	51.00	675.43	511.69	306.37	35.409	121.00	1643.42	1390.62	891.04	45.980
	52.00	689.67	522.56	312.92	35.620	122.00	1657.08	1405.70	901.98	46.104
	53.00	703.89	533.43	319.47	35.828	123.00	1670.75	1420.85	912.97	46.228
	54.00	718.08	544.30	326.03	36.031	124.00	1684.41	1436.06	924.03	46.351
	55.00	732.24	555.18	332.60	36.230	125.00	1698.07	1451.33	935.14	46.474
	56.00	746.38	566.07	339.18	36.426	126.00	1711.72	1466.65	946.32	46.596
	57.00	760.50	576.96	345.79	36.619	127.00	1725.37	1482.04	957.55	46.717
	58.00	774.60	587.87	352.41	36.809	128.00	1739.01	1497.47	968.84	46.838
	59.00	788.67	598.79	359.05	36.996	129.00	1752.66	1512.96	980.18	46.959
	60.00	802.73	609.73	365.72	37.180	130.00	1766.30	1528.50	991.58	47.079
	61.00	816.76	620.69	372.42	37.361	131.00	1779.94	1544.09	1003.02	47.198
	62.00	830.78	631.68	379.14	37.539	132.00	1793.58	1559.73	1014.52	47.317
	63.00	844.79	642.69	385.89	37.716	133.00	1807.22	1575.42	1026.06	47.436
	64.00	858.77	653.72	392.68	37.889	134.00	1820.86	1591.15	1037.64	47.554
	65.00	872.75	664.80	399.50	38.061	135.00	1834.50	1606.93	1049.28	47.671
	66.00	886.71	675.90	406.36	38.231	136.00	1848.13	1622.75	1060.95	47.788
	67.00	900.65	687.04	413.26	38.398	137.00	1861.77	1638.61	1072.67	47.904
	68.00	914.58	698.22	420.21	38.564	138.00	1875.40	1654.51	1084.42	48.019
	69.00	928.50	709.44	427.20	38.728	139.00	1889.04	1670.45	1096.22	48.134
	70.00	942.41	720.70	434.24	38.890	140.00	1902.67	1686.43	1108.05	48.249
	71.00	956.31	732.02	441.32	39.050	141.00	1916.31	1702.44	1119.92	48.363
	72.00	970.20	743.38	448.46	39.209	142.00	1929.94	1718.49	1131.82	48.476
	73.00	984.08	754.79	455.66	39.366	143.00	1943.57	1734.57	1143.76	48.589
	74.00	997.95	766.26	462.91	39.522	144.00	1957.20	1750.68	1155.72	48.701
	75.00	1011.80	777.79	470.23	39.677	145.00	1970.83	1766.82	1167.72	48.813
	76.00	1025.65	789.37	477.60	39.831	146.00	1984.47	1782.99	1179.74	48.924
	77.00	1039.50	801.02	485.04	39.983	147.00	1998.10	1799.18	1191.79	49.035
	78.00	1053.33	812.73	492.55	40.134	148.00	2011.73	1815.40	1203.87	49.145
	79.00	1067.16	824.51	500.13	40.284	149.00	2025.36	1831.64	1215.97	49.254
	80.00	1080.97	836.36	507.77	40.433	150.00	2038.99	1847.91	1228.09	49.363
	81.00	1094.79	848.28	515.49	40.581	151.00	2052.61	1864.14	1240.18	49.471
	82.00	1108.59	860.27	523.28	40.728	152.00	2066.23	1880.39	1252.29	49.578
	83.00	1122.39	872.33	531.15	40.875	153.00	2079.85	1896.65	1264.41	49.685
	84.00	1136.18	884.47	539.10	41.020	154.00	2093.47	1912.93	1276.55	49.791
	85.00	1149.97	896.69	547.13	41.165	155.00	2107.09	1929.23	1288.71	49.896
	86.00	1163.75	908.99	555.24	41.308	156.00	2120.71	1945.53	1300.87	50.001
	87.00	1177.52	921.37	563.43	41.451	157.00	2134.33	1961.85	1313.05	50.105
	88.00	1191.29	933.83	571.71	41.594	158.00	2147.95	1978.18	1325.24	50.209
	89.00	1205.06	946.37	580.07	41.736	159.00	2161.56	1994.52	1337.44	50.312
	90.00	1218.82	959.00	588.51	41.877	160.00	2175.18	2010.87	1349.65	50.415

* PHASE CHANGE

TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)	TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)
161.00	2188.80	2027.22	1361.86	50.517	231.00	3140.84	3154.67	2199.91	56.340
162.00	2202.42	2043.58	1374.09	50.618	232.00	3154.44	3170.27	2211.38	56.408
163.00	2216.03	2059.95	1386.31	50.719	233.00	3168.04	3185.85	2222.82	56.475
164.00	2229.65	2076.32	1398.55	50.819	234.00	3181.63	3201.42	2234.26	56.541
165.00	2243.26	2092.70	1410.79	50.918	235.00	3195.23	3216.97	2245.67	56.608
166.00	2256.88	2109.08	1423.03	51.017	236.00	3208.83	3232.50	2257.07	56.674
167.00	2270.50	2125.47	1435.27	51.116	237.00	3222.42	3248.01	2268.45	56.739
168.00	2284.11	2141.85	1447.52	51.213	238.00	3236.02	3263.51	2279.82	56.804
169.00	2297.73	2158.24	1459.77	51.311	239.00	3249.61	3278.99	2291.17	56.869
170.00	2311.34	2174.62	1472.01	51.407	240.00	3263.20	3294.46	2302.50	56.934
171.00	2324.95	2191.01	1484.26	51.504	241.00	3276.78	3309.91	2313.82	56.998
172.00	2338.56	2207.39	1496.51	51.599	242.00	3290.37	3325.34	2325.12	57.062
173.00	2352.17	2223.78	1508.76	51.694	243.00	3303.95	3340.76	2336.41	57.126
174.00	2365.78	2240.16	1521.00	51.788	244.00	3317.54	3356.16	2347.68	57.189
175.00	2379.39	2256.53	1533.24	51.882	245.00	3331.12	3371.54	2358.94	57.252
176.00	2393.00	2272.91	1545.48	51.976	246.00	3344.69	3386.91	2370.18	57.314
177.00	2406.60	2289.28	1557.71	52.068	247.00	3358.27	3402.26	2381.41	57.377
178.00	2420.21	2305.64	1569.94	52.160	248.00	3371.84	3417.60	2392.62	57.439
179.00	2433.81	2322.00	1582.16	52.252	249.00	3385.41	3432.92	2403.81	57.500
180.00	2447.42	2338.35	1594.37	52.343	250.00	3398.97	3448.22	2414.99	57.562
181.00	2461.02	2354.69	1606.58	52.434	251.00	3412.54	3463.55	2426.20	57.623
182.00	2474.63	2371.02	1618.78	52.524	252.00	3426.10	3478.86	2437.39	57.684
183.00	2488.23	2387.35	1630.97	52.613	253.00	3439.66	3494.16	2448.56	57.744
184.00	2501.83	2403.67	1643.15	52.702	254.00	3453.21	3509.44	2459.72	57.805
185.00	2515.44	2419.98	1655.33	52.791	255.00	3466.76	3524.70	2470.87	57.864
186.00	2529.04	2436.28	1667.49	52.878	256.00	3480.32	3539.96	2482.00	57.924
187.00	2542.64	2452.57	1679.65	52.966	257.00	3493.86	3555.20	2493.12	57.984
188.00	2556.24	2468.85	1691.79	53.053	258.00	3507.41	3570.42	2504.23	58.043
189.00	2569.85	2485.11	1703.92	53.139	259.00	3520.96	3585.63	2515.32	58.102
190.00	2583.45	2501.37	1716.04	53.225	260.00	3534.50	3600.83	2526.40	58.160
191.00	2597.05	2517.61	1728.15	53.310	261.00	3548.04	3616.02	2537.47	58.218
192.00	2610.65	2533.84	1740.25	53.395	262.00	3561.58	3631.19	2548.53	58.276
193.00	2624.25	2550.06	1752.33	53.479	263.00	3575.12	3646.35	2559.58	58.334
194.00	2637.85	2566.27	1764.40	53.563	264.00	3588.66	3661.50	2570.61	58.392
195.00	2651.45	2582.46	1776.46	53.646	265.00	3602.19	3676.64	2581.63	58.449
196.00	2665.05	2598.63	1788.51	53.729	266.00	3615.73	3691.76	2592.64	58.506
197.00	2678.65	2614.80	1800.54	53.811	267.00	3629.27	3706.88	2603.64	58.563
198.00	2692.24	2630.95	1812.55	53.893	268.00	3642.81	3721.98	2614.63	58.619
199.00	2705.84	2647.08	1824.55	53.974	269.00	3656.35	3737.08	2625.61	58.675
200.00	2719.44	2663.20	1836.54	54.055	270.00	3669.89	3752.16	2636.58	58.731
201.00	2733.04	2679.30	1848.50	54.135	271.00	3683.43	3767.24	2647.54	58.787
202.00	2746.63	2695.38	1860.45	54.215	272.00	3696.97	3782.30	2658.49	58.843
203.00	2760.22	2711.44	1872.38	54.294	273.00	3710.52	3797.36	2669.43	58.898
204.00	2773.81	2727.49	1884.30	54.373	274.00	3724.07	3812.41	2680.36	58.953
205.00	2787.41	2743.53	1896.20	54.451	275.00	3737.62	3827.45	2691.28	59.008
206.00	2801.00	2759.54	1908.09	54.529	276.00	3751.18	3842.48	2702.19	59.062
207.00	2814.59	2775.55	1919.96	54.607	277.00	3764.74	3857.51	2713.09	59.116
208.00	2828.18	2791.53	1931.81	54.684	278.00	3778.30	3872.53	2723.99	59.171
209.00	2841.78	2807.50	1943.65	54.761	279.00	3791.87	3887.54	2734.88	59.225
210.00	2855.37	2823.45	1955.47	54.837	280.00	3805.44	3902.55	2745.76	59.278
211.00	2868.96	2839.39	1967.27	54.912	281.00	3819.02	3917.55	2756.63	59.332
212.00	2882.55	2855.31	1979.06	54.988	282.00	3832.61	3932.54	2767.49	59.385
213.00	2896.15	2871.21	1990.83	55.063	283.00	3846.20	3947.53	2778.35	59.438
214.00	2909.74	2887.10	2002.59	55.137	284.00	3859.79	3962.51	2789.20	59.491
215.00	2923.33	2902.97	2014.33	55.211	285.00	3873.39	3977.49	2800.04	59.544
216.00	2936.92	2918.83	2026.05	55.284	286.00	3887.00	3992.46	2810.88	59.596
217.00	2950.52	2934.66	2037.76	55.358	287.00	3900.62	4007.43	2821.71	59.648
218.00	2964.11	2950.49	2049.45	55.430	288.00	3914.24	4022.39	2832.53	59.700
219.00	2977.70	2966.29	2061.12	55.503	289.00	3927.86	4037.35	2843.35	59.752
220.00	2991.30	2982.08	2072.78	55.575	290.00	3941.49	4052.30	2854.15	59.804
221.00	3004.89	2997.85	2084.41	55.646	291.00	3955.13	4067.25	2864.96	59.855
222.00	3018.48	3013.61	2096.04	55.717	292.00	3968.77	4082.19	2875.75	59.906
223.00	3032.08	3029.34	2107.64	55.788	293.00	3982.42	4097.13	2886.54	59.957
224.00	3045.67	3045.07	2119.23	55.858	294.00	3996.07	4112.06	2897.32	60.008
225.00	3059.27	3060.77	2130.81	55.928	295.00	4009.73	4126.98	2908.09	60.059
226.00	3072.86	3076.46	2142.37	55.998	296.00	4023.39	4141.90	2918.86	60.110
227.00	3086.45	3092.14	2153.91	56.067	297.00	4037.05	4156.82	2929.62	60.160
228.00	3100.05	3107.79	2165.43	56.136	298.00	4050.72	4171.73	2940.38	60.210
229.00	3113.64	3123.43	2176.94	56.204	299.00	4064.38	4186.63	2951.12	60.260
230.00	3127.24	3139.06	2188.43	56.272	300.00	4078.05	4201.52	2961.86	60.310

4.00 ATMOSPHERE ISO8AR

	TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)	TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)
	20.00	13.98	-255.34	-261.00	7.821					
	21.00	14.21	-245.61	-251.37	8.298					
	22.00	14.47	-235.25	-241.11	8.777	91.00	923.82	969.80	595.37	40.812
	23.00	14.76	-224.15	-230.14	9.273	92.00	934.18	982.64	604.01	40.952
	24.00	15.09	-212.23	-218.35	9.782	93.00	944.53	995.56	612.74	41.092
	25.00	15.47	-199.32	-205.59	10.307	94.00	954.87	1008.56	621.55	41.231
	26.00	15.93	-185.17	-191.62	10.861	95.00	965.22	1021.65	630.45	41.370
*	26.020	15.93	-184.87	-191.33	10.872	96.00	975.56	1034.82	639.43	41.507
*	26.020	201.69	204.93	123.18	25.868	97.00	985.89	1048.08	648.49	41.645
	27.00	217.40	221.33	133.22	26.487	98.00	996.22	1061.41	657.64	41.782
	28.00	232.17	236.43	142.33	27.036	99.00	1006.55	1074.82	666.87	41.918
	29.00	246.13	250.49	150.73	27.530	100.00	1016.88	1088.32	676.18	42.053
	30.00	259.52	263.87	158.68	27.983					
	31.00	272.50	276.76	166.32	28.406	101.00	1027.19	1101.89	685.56	42.188
	32.00	285.16	289.32	173.74	28.805	102.00	1037.50	1115.54	695.03	42.323
	33.00	297.57	301.60	180.99	29.183	103.00	1047.80	1129.28	704.60	42.457
	34.00	309.78	313.68	188.13	29.543	104.00	1058.10	1143.10	714.24	42.591
	35.00	321.81	325.59	195.16	29.889	105.00	1068.40	1157.00	723.96	42.724
	36.00	333.70	337.38	202.12	30.221	106.00	1078.69	1170.97	733.77	42.856
	37.00	345.47	349.05	209.03	30.540	107.00	1088.98	1185.03	743.66	42.988
	38.00	357.12	360.62	215.88	30.849	108.00	1099.27	1199.17	753.62	43.120
	39.00	368.68	372.12	222.69	31.148	109.00	1109.56	1213.38	763.67	43.251
	40.00	380.15	383.54	229.47	31.437	110.00	1119.84	1227.67	773.79	43.381
	41.00	391.54	394.90	236.21	31.717	111.00	1130.13	1242.04	783.98	43.511
	42.00	402.86	406.21	242.93	31.990	112.00	1140.41	1256.48	794.26	43.641
	43.00	414.11	417.47	249.63	32.255	113.00	1150.69	1270.99	804.60	43.770
	44.00	425.31	428.69	256.31	32.513	114.00	1160.97	1285.57	815.02	43.898
	45.00	436.45	439.87	262.98	32.764	115.00	1171.24	1300.23	825.51	44.026
	46.00	447.54	451.02	269.63	33.009	116.00	1181.52	1314.96	836.07	44.154
	47.00	458.59	462.14	276.27	33.248	117.00	1191.79	1329.75	846.70	44.281
	48.00	469.59	473.24	282.91	33.482	118.00	1202.07	1344.61	857.40	44.407
	49.00	480.55	484.31	289.54	33.710	119.00	1212.34	1359.54	868.16	44.533
	50.00	491.48	495.36	296.17	33.934	120.00	1222.61	1374.53	878.99	44.658
	51.00	502.37	506.41	302.80	34.152	121.00	1232.89	1389.58	889.88	44.783
	52.00	513.23	517.44	309.43	34.366	122.00	1243.16	1404.68	900.82	44.908
	53.00	524.06	528.46	316.06	34.576	123.00	1253.43	1419.85	911.82	45.031
	54.00	534.86	539.48	322.70	34.782	124.00	1263.70	1435.08	922.89	45.155
	55.00	545.64	550.50	329.36	34.985	125.00	1273.97	1450.36	934.01	45.277
	56.00	556.39	561.52	336.02	35.183	126.00	1284.22	1465.70	945.19	45.400
	57.00	567.11	572.54	342.69	35.378	127.00	1294.48	1481.10	956.44	45.521
	58.00	577.82	583.58	349.38	35.570	128.00	1304.73	1496.56	967.74	45.643
	59.00	588.50	594.62	356.10	35.759	129.00	1314.98	1512.07	979.09	45.763
	60.00	599.17	605.67	362.83	35.945	130.00	1325.24	1527.62	990.49	45.883
	61.00	609.81	616.74	369.59	36.128	131.00	1335.48	1543.23	1001.94	46.003
	62.00	620.44	627.83	376.37	36.308	132.00	1345.73	1558.89	1013.45	46.122
	63.00	631.05	638.94	383.18	36.486	133.00	1355.98	1574.59	1025.00	46.241
	64.00	641.65	650.08	390.02	36.661	134.00	1366.23	1590.34	1036.59	46.359
	65.00	652.23	661.24	396.90	36.834	135.00	1376.47	1606.13	1048.23	46.476
	66.00	662.79	672.44	403.81	37.005	136.00	1386.72	1621.97	1059.91	46.593
	67.00	673.35	683.67	410.76	37.174	137.00	1396.96	1637.84	1071.64	46.709
	68.00	683.89	694.93	417.76	37.341	138.00	1407.20	1653.76	1083.40	46.825
	69.00	694.41	706.23	424.79	37.506	139.00	1417.45	1669.71	1095.21	46.940
	70.00	704.93	717.58	431.87	37.669	140.00	1427.69	1685.70	1107.05	47.055
	71.00	715.43	728.97	439.01	37.831	141.00	1437.93	1701.73	1118.92	47.169
	72.00	725.93	740.41	446.19	37.991	142.00	1448.17	1717.79	1130.83	47.282
	73.00	736.41	751.89	453.43	38.149	143.00	1458.41	1733.88	1142.78	47.395
	74.00	746.89	763.43	460.72	38.306	144.00	1468.65	1750.01	1154.75	47.508
	75.00	757.35	775.03	468.07	38.462	145.00	1478.88	1766.16	1166.75	47.619
	76.00	767.81	786.68	475.49	38.616	146.00	1489.12	1782.34	1178.78	47.731
	77.00	778.26	798.39	482.96	38.769	147.00	1499.36	1798.55	1190.84	47.841
	78.00	788.70	810.16	490.51	38.921	148.00	1509.60	1814.78	1202.92	47.951
	79.00	799.13	822.00	498.12	39.072	149.00	1519.83	1831.04	1215.03	48.061
	80.00	809.56	833.91	505.80	39.222	150.00	1530.07	1847.31	1227.16	48.170
	81.00	819.97	845.88	513.55	39.370	151.00	1540.30	1863.56	1239.26	48.278
	82.00	830.38	857.93	521.37	39.518	152.00	1550.53	1879.82	1251.37	48.385
	83.00	840.79	870.05	529.28	39.665	153.00	1560.76	1896.09	1263.50	48.492
	84.00	851.19	882.24	537.25	39.811	154.00	1570.98	1912.38	1275.65	48.598
	85.00	861.58	894.51	545.31	39.956	155.00	1581.21	1928.69	1287.81	48.703
	86.00	871.97	906.86	553.45	40.101	156.00	1591.44	1945.01	1299.98	48.808
	87.00	882.35	919.28	561.67	40.244	157.00	1601.66	1961.34	1312.16	48.913
	88.00	892.72	931.79	569.97	40.387	158.00	1611.89	1977.67	1324.36	49.016
	89.00	903.09	944.37	578.35	40.530	159.00	1622.12	1994.02	1336.56	49.119
	90.00	913.46	957.05	586.82	40.671	160.00	1632.34	2010.38	1348.78	49.222

* PHASE CHANGE

TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)	TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)
161.00	1642.57	2026.75	1361.00	49.324	231.00	2357.13	3154.74	2199.37	55.151
162.00	1652.79	2043.12	1373.23	49.425	232.00	2367.34	3170.34	2210.84	55.218
163.00	1663.01	2059.50	1385.46	49.526	233.00	2377.54	3185.93	2222.29	55.285
164.00	1673.24	2075.88	1397.70	49.626	234.00	2387.75	3201.50	2233.72	55.352
165.00	1683.46	2092.27	1409.94	49.726	235.00	2397.95	3217.05	2245.14	55.418
166.00	1693.69	2108.66	1422.19	49.825	236.00	2408.15	3232.59	2256.54	55.484
167.00	1703.91	2125.05	1434.44	49.923	237.00	2418.35	3248.11	2267.93	55.550
168.00	1714.13	2141.45	1446.69	50.021	238.00	2428.55	3263.61	2279.30	55.615
169.00	1724.35	2157.84	1458.94	50.119	239.00	2438.75	3279.10	2290.65	55.680
170.00	1734.58	2174.24	1471.19	50.215	240.00	2448.95	3294.57	2301.99	55.744
171.00	1744.79	2190.63	1483.45	50.312	241.00	2459.14	3310.02	2313.31	55.809
172.00	1755.01	2207.03	1495.70	50.407	242.00	2469.34	3325.46	2324.61	55.873
173.00	1765.23	2223.42	1507.95	50.502	243.00	2479.53	3340.88	2335.90	55.936
174.00	1775.44	2239.81	1520.20	50.597	244.00	2489.72	3356.29	2347.18	55.999
175.00	1785.66	2256.20	1532.45	50.691	245.00	2499.91	3371.68	2358.44	56.062
176.00	1795.87	2272.58	1544.69	50.784	246.00	2510.10	3387.05	2369.68	56.125
177.00	1806.09	2288.96	1556.93	50.877	247.00	2520.28	3402.41	2380.91	56.187
178.00	1816.30	2305.33	1569.16	50.969	248.00	2530.47	3417.75	2392.12	56.249
179.00	1826.52	2321.69	1581.39	51.061	249.00	2540.65	3433.07	2403.32	56.311
180.00	1836.73	2338.05	1593.61	51.152	250.00	2550.83	3448.38	2414.51	56.372
181.00	1846.94	2354.41	1605.82	51.242	251.00	2561.00	3463.71	2425.71	56.433
182.00	1857.15	2370.75	1618.03	51.332	252.00	2571.18	3479.03	2436.90	56.494
183.00	1867.37	2387.09	1630.22	51.422	253.00	2581.35	3494.33	2448.08	56.555
184.00	1877.58	2403.41	1642.41	51.511	254.00	2591.52	3509.62	2459.24	56.615
185.00	1887.79	2419.73	1654.59	51.599	255.00	2601.69	3524.89	2470.39	56.675
186.00	1898.00	2436.04	1666.76	51.687	256.00	2611.86	3540.15	2481.53	56.735
187.00	1908.21	2452.34	1678.92	51.775	257.00	2622.03	3555.39	2492.65	56.794
188.00	1918.42	2468.62	1691.07	51.861	258.00	2632.19	3570.62	2503.76	56.854
189.00	1928.63	2484.90	1703.20	51.948	259.00	2642.35	3585.84	2514.86	56.912
190.00	1938.84	2501.16	1715.33	52.034	260.00	2652.52	3601.04	2525.95	56.971
191.00	1949.04	2517.41	1727.45	52.119	261.00	2662.68	3616.23	2537.02	57.029
192.00	1959.25	2533.65	1739.55	52.204	262.00	2672.84	3631.41	2548.08	57.087
193.00	1969.46	2549.88	1751.64	52.288	263.00	2682.99	3646.57	2559.13	57.145
194.00	1979.67	2566.09	1763.71	52.372	264.00	2693.15	3661.73	2570.16	57.203
195.00	1989.87	2582.29	1775.77	52.455	265.00	2703.31	3676.87	2581.19	57.260
196.00	2000.08	2598.48	1787.82	52.538	266.00	2713.47	3692.00	2592.20	57.317
197.00	2010.29	2614.65	1799.86	52.620	267.00	2723.62	3707.12	2603.20	57.374
198.00	2020.49	2630.81	1811.88	52.702	268.00	2733.78	3722.23	2614.20	57.430
199.00	2030.70	2646.95	1823.89	52.783	269.00	2743.94	3737.33	2625.18	57.486
200.00	2040.91	2663.08	1835.88	52.864	270.00	2754.10	3752.41	2636.15	57.542
201.00	2051.11	2679.18	1847.84	52.945	271.00	2764.26	3767.49	2647.11	57.598
202.00	2061.31	2695.27	1859.80	53.024	272.00	2774.42	3782.56	2658.06	57.654
203.00	2071.51	2711.34	1871.73	53.104	273.00	2784.59	3797.63	2669.00	57.709
204.00	2081.71	2727.40	1883.66	53.183	274.00	2794.75	3812.68	2679.94	57.764
205.00	2091.91	2743.44	1895.56	53.261	275.00	2804.92	3827.72	2690.86	57.819
206.00	2102.11	2759.46	1907.45	53.339	276.00	2815.09	3842.76	2701.77	57.873
207.00	2112.31	2775.47	1919.33	53.417	277.00	2825.26	3857.79	2712.68	57.928
208.00	2122.52	2791.46	1931.18	53.494	278.00	2835.44	3872.81	2723.58	57.982
209.00	2132.72	2807.44	1943.03	53.570	279.00	2845.62	3887.83	2734.47	58.036
210.00	2142.92	2823.40	1954.85	53.646	280.00	2855.80	3902.84	2745.35	58.089
211.00	2153.12	2839.34	1966.66	53.722	281.00	2865.99	3917.84	2756.22	58.143
212.00	2163.32	2855.27	1978.45	53.797	282.00	2876.18	3932.84	2767.09	58.196
213.00	2173.52	2871.18	1990.23	53.872	283.00	2886.37	3947.83	2777.95	58.249
214.00	2183.72	2887.07	2001.99	53.947	284.00	2896.57	3962.81	2788.80	58.302
215.00	2193.92	2902.95	2013.73	54.021	285.00	2906.77	3977.79	2799.65	58.355
216.00	2204.12	2918.81	2025.46	54.094	286.00	2916.98	3992.77	2810.48	58.407
217.00	2214.32	2934.65	2037.17	54.168	287.00	2927.19	4007.74	2821.31	58.459
218.00	2224.52	2950.48	2048.86	54.240	288.00	2937.41	4022.70	2832.14	58.511
219.00	2234.72	2966.29	2060.54	54.313	289.00	2947.63	4037.66	2842.95	58.563
220.00	2244.92	2982.09	2072.20	54.385	290.00	2957.86	4052.61	2853.76	58.615
221.00	2255.12	2997.86	2083.84	54.456	291.00	2968.09	4067.56	2864.56	58.666
222.00	2265.32	3013.63	2095.47	54.527	292.00	2978.32	4082.51	2875.36	58.718
223.00	2275.52	3029.37	2107.08	54.598	293.00	2988.56	4097.44	2886.15	58.769
224.00	2285.72	3045.10	2118.67	54.669	294.00	2998.80	4112.38	2896.93	58.820
225.00	2295.93	3060.81	2130.25	54.739	295.00	3009.04	4127.30	2907.71	58.870
226.00	2306.13	3076.50	2141.81	54.808	296.00	3019.28	4142.23	2918.48	58.921
227.00	2316.33	3092.18	2153.35	54.877	297.00	3029.53	4157.14	2929.24	58.971
228.00	2326.53	3107.85	2164.88	54.946	298.00	3039.78	4172.05	2939.99	59.021
229.00	2336.73	3123.49	2176.39	55.015	299.00	3050.03	4186.95	2950.74	59.071
230.00	2346.93	3139.12	2187.89	55.083	300.00	3060.28	4201.85	2961.48	59.121

5.00 ATMOSPHERE ISO8AR

	TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)	TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)
	20.00	13.96	-254.36	-261.43	7.799					
	21.00	14.18	-244.68	-251.87	8.274					
	22.00	14.44	-234.38	-241.70	8.750	91.00	738.59	967.90	593.71	39.873
	23.00	14.72	-223.37	-230.83	9.242	92.00	746.91	980.78	602.38	40.014
	24.00	15.04	-211.56	-219.18	9.746	93.00	755.22	993.74	611.13	40.154
	25.00	15.42	-198.79	-206.60	10.265	94.00	763.53	1006.78	619.96	40.294
	26.00	15.85	-184.84	-192.87	10.811	95.00	771.84	1019.91	628.88	40.433
	27.00	16.39	-169.36	-177.66	11.395	96.00	780.14	1033.12	637.88	40.571
*	27.184	16.49	-166.29	-174.64	11.510	97.00	788.44	1046.41	646.97	40.709
*	27.184	160.24	202.35	121.17	25.087	98.00	796.74	1059.78	656.13	40.846
	28.00	171.83	217.62	130.57	25.641	99.00	805.03	1073.23	665.39	40.982
	29.00	184.70	234.20	140.62	26.223	100.00	813.31	1086.76	674.72	41.118
	30.00	196.67	249.34	149.70	26.736					
	31.00	208.03	263.56	158.17	27.202	101.00	821.59	1100.37	684.11	41.254
	32.00	218.95	277.14	166.22	27.634	102.00	829.86	1114.05	693.61	41.388
	33.00	229.55	290.27	173.97	28.038	103.00	838.13	1127.82	703.19	41.523
	34.00	239.88	303.05	181.52	28.419	104.00	846.39	1141.66	712.85	41.657
	35.00	250.01	315.57	188.91	28.782	105.00	854.65	1155.59	722.59	41.790
	36.00	259.96	327.87	196.17	29.129	106.00	862.91	1169.60	732.41	41.923
	37.00	269.77	340.01	203.34	29.461	107.00	871.17	1183.68	742.31	42.055
	38.00	279.45	352.00	210.43	29.781	108.00	879.42	1197.84	752.29	42.187
	39.00	289.03	363.88	217.45	30.090	109.00	887.67	1212.08	762.35	42.318
	40.00	298.51	375.65	224.42	30.388	110.00	895.92	1226.40	772.49	42.449
	41.00	307.90	387.33	231.34	30.676	111.00	904.17	1240.79	782.70	42.579
	42.00	317.21	398.93	238.22	30.956	112.00	912.41	1255.25	792.99	42.709
	43.00	326.46	410.47	245.08	31.227	113.00	920.66	1269.79	803.35	42.838
	44.00	335.64	421.94	251.90	31.491	114.00	928.90	1284.40	813.78	42.966
	45.00	344.76	433.37	258.70	31.748	115.00	937.14	1299.07	824.28	43.095
	46.00	353.84	444.74	265.48	31.998	116.00	945.38	1313.82	834.85	43.222
	47.00	362.86	456.07	272.24	32.241	117.00	953.62	1328.64	845.50	43.349
	48.00	371.84	467.37	278.99	32.479	118.00	961.86	1343.52	856.20	43.476
	49.00	380.78	478.64	285.73	32.712	119.00	970.10	1358.47	866.98	43.602
	50.00	389.68	489.88	292.46	32.939	120.00	978.34	1373.48	877.82	43.728
	51.00	398.54	501.09	299.18	33.161	121.00	986.57	1388.55	888.71	43.853
	52.00	407.37	512.29	305.90	33.378	122.00	994.81	1403.67	899.66	43.977
	53.00	416.17	523.47	312.63	33.591	123.00	1003.04	1418.86	910.68	44.101
	54.00	424.94	534.64	319.36	33.800	124.00	1011.28	1434.10	921.75	44.225
	55.00	433.68	545.80	326.08	34.005	125.00	1019.51	1449.41	932.88	44.348
	56.00	442.40	556.96	332.82	34.206	126.00	1027.74	1464.77	944.08	44.470
	57.00	451.09	568.11	339.58	34.403	127.00	1035.96	1480.19	955.33	44.592
	58.00	459.77	579.27	346.34	34.597	128.00	1044.17	1495.66	966.64	44.713
	59.00	468.42	590.43	353.12	34.788	129.00	1052.39	1511.18	978.00	44.834
	60.00	477.05	601.60	359.92	34.976	130.00	1060.61	1526.76	989.41	44.954
	61.00	485.66	612.78	366.74	35.161	131.00	1068.82	1542.38	1000.87	45.074
	62.00	494.25	623.98	373.58	35.343	132.00	1077.04	1558.05	1012.38	45.193
	63.00	502.83	635.20	380.45	35.522	133.00	1085.25	1573.77	1023.94	45.312
	64.00	511.39	646.43	387.35	35.699	134.00	1093.46	1589.54	1035.55	45.430
	65.00	519.93	657.70	394.28	35.874	135.00	1101.67	1605.34	1047.19	45.548
	66.00	528.46	668.98	401.25	36.046	136.00	1109.88	1621.19	1058.89	45.665
	67.00	536.98	680.30	408.25	36.216	137.00	1118.09	1637.09	1070.62	45.781
	68.00	545.49	691.65	415.29	36.384	138.00	1126.30	1653.02	1082.39	45.897
	69.00	553.98	703.04	422.38	36.551	139.00	1134.50	1668.99	1094.20	46.012
	70.00	562.46	714.46	429.51	36.715	140.00	1142.71	1684.99	1106.05	46.127
	71.00	570.93	725.93	436.68	36.878	141.00	1150.91	1701.03	1117.94	46.241
	72.00	579.39	737.44	443.91	37.039	142.00	1159.12	1717.11	1129.85	46.355
	73.00	587.83	749.00	451.19	37.198	143.00	1167.32	1733.21	1141.80	46.468
	74.00	596.27	760.61	458.52	37.356	144.00	1175.53	1749.35	1153.78	46.580
	75.00	604.70	772.27	465.92	37.513	145.00	1183.73	1765.52	1165.79	46.692
	76.00	613.12	783.99	473.37	37.668	146.00	1191.93	1781.71	1177.83	46.803
	77.00	621.53	795.77	480.88	37.822	147.00	1200.13	1797.93	1189.90	46.914
	78.00	629.94	807.60	488.46	37.974	148.00	1208.33	1814.18	1201.99	47.024
	79.00	638.33	819.50	496.11	38.126	149.00	1216.53	1830.45	1214.10	47.134
	80.00	646.72	831.47	503.82	38.277	150.00	1224.73	1846.74	1226.24	47.243
	81.00	655.10	843.49	511.60	38.426	151.00	1232.92	1862.99	1238.34	47.351
	82.00	663.48	855.59	519.46	38.574	152.00	1241.12	1879.26	1250.47	47.458
	83.00	671.85	867.77	527.39	38.722	153.00	1249.31	1895.55	1262.60	47.565
	84.00	680.21	880.01	535.40	38.869	154.00	1257.50	1911.85	1274.76	47.671
	85.00	688.56	892.33	543.49	39.014	155.00	1265.70	1928.17	1286.92	47.777
	86.00	696.91	904.73	551.66	39.159	156.00	1273.89	1944.50	1299.10	47.882
	87.00	705.26	917.20	559.90	39.304	157.00	1282.08	1960.84	1311.29	47.986
	88.00	713.60	929.76	568.23	39.447	158.00	1290.27	1977.19	1323.49	48.090
	89.00	721.93	942.39	576.64	39.590	159.00	1298.46	1993.55	1335.70	48.193
	90.00	730.26	955.10	585.14	39.732	160.00	1306.65	2009.92	1347.92	48.296

* PHASE CHANGE

TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)	TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)
161.00	1314.84	2026.30	1360.15	48.398	231.00	1886.92	3154.82	2198.83	54.227
162.00	1323.02	2042.68	1372.39	48.499	232.00	1895.09	3170.43	2210.30	54.295
163.00	1331.21	2059.07	1384.63	48.600	233.00	1903.25	3186.02	2221.76	54.362
164.00	1339.40	2075.46	1396.87	48.700	234.00	1911.42	3201.59	2233.19	54.428
165.00	1347.59	2091.86	1409.12	48.800	235.00	1919.59	3217.15	2244.62	54.495
166.00	1355.78	2108.26	1421.37	48.899	236.00	1927.75	3232.69	2256.02	54.561
167.00	1363.96	2124.66	1433.63	48.998	237.00	1935.92	3248.22	2267.41	54.626
168.00	1372.15	2141.07	1445.88	49.096	238.00	1944.08	3263.73	2278.78	54.692
169.00	1380.34	2157.47	1458.14	49.193	239.00	1952.24	3279.22	2290.14	54.757
170.00	1388.52	2173.88	1470.40	49.290	240.00	1960.40	3294.69	2301.48	54.821
171.00	1396.70	2190.28	1482.66	49.386	241.00	1968.56	3310.15	2312.80	54.886
172.00	1404.89	2206.69	1494.92	49.482	242.00	1976.72	3325.60	2324.11	54.949
173.00	1413.07	2223.09	1507.17	49.577	243.00	1984.88	3341.02	2335.41	55.013
174.00	1421.25	2239.49	1519.43	49.671	244.00	1993.03	3356.43	2346.68	55.076
175.00	1429.43	2255.88	1531.68	49.765	245.00	2001.19	3371.83	2357.95	55.139
176.00	1437.61	2272.27	1543.93	49.859	246.00	2009.34	3387.20	2369.19	55.202
177.00	1445.79	2288.66	1556.17	49.952	247.00	2017.49	3402.57	2380.43	55.264
178.00	1453.96	2305.04	1568.41	50.044	248.00	2025.64	3417.91	2391.64	55.326
179.00	1462.14	2321.42	1580.64	50.136	249.00	2033.79	3433.24	2402.85	55.388
180.00	1470.32	2337.78	1592.86	50.227	250.00	2041.94	3448.56	2414.03	55.449
181.00	1478.50	2354.15	1605.08	50.317	251.00	2050.09	3463.89	2425.24	55.511
182.00	1486.67	2370.50	1617.29	50.407	252.00	2058.23	3479.22	2436.44	55.572
183.00	1494.85	2386.84	1629.49	50.497	253.00	2066.37	3494.52	2447.62	55.632
184.00	1503.03	2403.18	1641.69	50.586	254.00	2074.51	3509.81	2458.78	55.692
185.00	1511.20	2419.50	1653.87	50.675	255.00	2082.65	3525.09	2469.94	55.752
186.00	1519.38	2435.82	1666.05	50.762	256.00	2090.79	3540.35	2481.08	55.812
187.00	1527.55	2452.13	1678.21	50.850	257.00	2098.93	3555.60	2492.20	55.872
188.00	1535.72	2468.42	1690.36	50.937	258.00	2107.06	3570.83	2503.32	55.931
189.00	1543.90	2484.70	1702.50	51.023	259.00	2115.20	3586.06	2514.42	55.990
190.00	1552.07	2500.97	1714.64	51.109	260.00	2123.33	3601.26	2525.50	56.048
191.00	1560.25	2517.23	1726.75	51.194	261.00	2131.46	3616.46	2536.58	56.107
192.00	1568.42	2533.48	1738.86	51.279	262.00	2139.59	3631.64	2547.64	56.165
193.00	1576.59	2549.72	1750.95	51.364	263.00	2147.72	3646.81	2558.69	56.222
194.00	1584.76	2565.94	1763.03	51.447	264.00	2155.85	3661.97	2569.73	56.280
195.00	1592.94	2582.14	1775.10	51.531	265.00	2163.98	3677.12	2580.76	56.337
196.00	1601.11	2598.34	1787.15	51.614	266.00	2172.11	3692.25	2591.78	56.394
197.00	1609.28	2614.52	1799.19	51.696	267.00	2180.24	3707.37	2602.78	56.451
198.00	1617.45	2630.68	1811.22	51.778	268.00	2188.37	3722.49	2613.77	56.508
199.00	1625.62	2646.83	1823.23	51.859	269.00	2196.50	3737.59	2624.76	56.564
200.00	1633.79	2662.96	1835.22	51.940	270.00	2204.63	3752.68	2635.73	56.620
201.00	1641.96	2679.07	1847.20	52.020	271.00	2212.76	3767.77	2646.70	56.676
202.00	1650.12	2695.17	1859.15	52.100	272.00	2220.90	3782.84	2657.65	56.731
203.00	1658.29	2711.25	1871.09	52.180	273.00	2229.03	3797.91	2668.59	56.786
204.00	1666.46	2727.31	1883.02	52.259	274.00	2237.17	3812.96	2679.53	56.841
205.00	1674.62	2743.36	1894.93	52.337	275.00	2245.30	3828.01	2690.45	56.896
206.00	1682.79	2759.39	1906.82	52.415	276.00	2253.44	3843.05	2701.37	56.951
207.00	1690.96	2775.41	1918.70	52.493	277.00	2261.58	3858.08	2712.28	57.005
208.00	1699.12	2791.40	1930.56	52.570	278.00	2269.73	3873.11	2723.18	57.059
209.00	1707.29	2807.39	1942.41	52.646	279.00	2277.87	3888.13	2734.07	57.113
210.00	1715.45	2823.35	1954.24	52.723	280.00	2286.02	3903.14	2744.95	57.167
211.00	1723.62	2839.30	1966.05	52.798	281.00	2294.17	3918.14	2755.83	57.220
212.00	1731.78	2855.24	1977.85	52.874	282.00	2302.33	3933.14	2766.69	57.274
213.00	1739.95	2871.15	1989.63	52.949	283.00	2310.49	3948.14	2777.56	57.327
214.00	1748.11	2887.05	2001.39	53.023	284.00	2318.65	3963.12	2788.41	57.380
215.00	1756.28	2902.93	2013.14	53.097	285.00	2326.81	3978.11	2799.25	57.432
216.00	1764.44	2918.80	2024.87	53.171	286.00	2334.98	3993.08	2810.09	57.485
217.00	1772.61	2934.65	2036.58	53.244	287.00	2343.15	4008.05	2820.92	57.537
218.00	1780.77	2950.48	2048.28	53.317	288.00	2351.33	4023.02	2831.75	57.589
219.00	1788.94	2966.30	2059.96	53.389	289.00	2359.50	4037.98	2842.56	57.641
220.00	1797.10	2982.10	2071.62	53.461	290.00	2367.68	4052.94	2853.38	57.693
221.00	1805.27	2997.89	2083.27	53.533	291.00	2375.87	4067.89	2864.18	57.744
222.00	1813.43	3013.65	2094.90	53.604	292.00	2384.06	4082.83	2874.98	57.795
223.00	1821.60	3029.40	2106.51	53.675	293.00	2392.25	4097.77	2885.77	57.846
224.00	1829.76	3045.14	2118.11	53.745	294.00	2400.44	4112.70	2896.55	57.897
225.00	1837.93	3060.85	2129.69	53.815	295.00	2408.63	4127.63	2907.33	57.948
226.00	1846.09	3076.55	2141.25	53.885	296.00	2416.83	4142.56	2918.10	57.998
227.00	1854.26	3092.24	2152.80	53.954	297.00	2425.03	4157.47	2928.86	58.049
228.00	1862.42	3107.91	2164.33	54.023	298.00	2433.23	4172.38	2939.62	58.099
229.00	1870.59	3123.56	2175.84	54.091	299.00	2441.43	4187.29	2950.37	58.149
230.00	1878.75	3139.19	2187.34	54.159	300.00	2449.63	4202.18	2961.11	58.199

6.00 ATMOSPHERE ISO8AR

	TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)	TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)
	20.00	13.93	-253.38	-261.85	7.777					
	21.00	14.16	-243.76	-252.36	8.249					
	22.00	14.40	-233.51	-242.27	8.723	91.00	615.11	966.01	592.05	39.103
	23.00	14.68	-222.58	-231.50	9.212	92.00	622.07	978.93	600.74	39.244
	24.00	15.00	-210.87	-219.98	9.712	93.00	629.03	991.93	609.51	39.385
	25.00	15.36	-198.23	-207.57	10.225	94.00	635.98	1005.02	618.37	39.525
	26.00	15.78	-184.48	-194.07	10.764	95.00	642.93	1018.18	627.31	39.664
	27.00	16.29	-169.28	-179.19	11.337	96.00	649.88	1031.43	636.34	39.803
	28.00	16.93	-152.09	-162.39	11.963	97.00	656.82	1044.76	645.44	39.941
*	28.195	17.08	-148.41	-158.80	12.093	98.00	663.75	1058.16	654.63	40.078
*	28.195	131.72	198.05	117.97	24.401	99.00	670.69	1071.65	663.90	40.215
	29.00	142.21	214.81	128.36	24.987	100.00	677.62	1085.21	673.25	40.352
	30.00	153.77	232.79	139.31	25.597					
	31.00	164.35	248.94	149.02	26.126	101.00	684.54	1098.85	682.68	40.487
	32.00	174.31	263.94	157.96	26.602	102.00	691.45	1112.57	692.19	40.622
	33.00	183.82	278.15	166.40	27.040	103.00	698.36	1126.37	701.79	40.757
	34.00	192.99	291.81	174.48	27.448	104.00	705.27	1140.24	711.46	40.891
	35.00	201.91	305.06	182.30	27.832	105.00	712.17	1154.20	721.22	41.025
	36.00	210.63	317.98	189.93	28.196	106.00	719.07	1168.23	731.06	41.158
	37.00	219.17	330.65	197.41	28.543	107.00	725.97	1182.34	740.98	41.290
	38.00	227.57	343.12	204.77	28.876	108.00	732.87	1196.53	750.98	41.422
	39.00	235.84	355.41	212.04	29.195	109.00	739.76	1210.80	761.05	41.554
	40.00	244.01	367.56	219.22	29.503	110.00	746.65	1225.14	771.20	41.685
	41.00	252.08	379.59	226.34	29.800	111.00	753.54	1239.56	781.43	41.815
	42.00	260.07	391.52	233.40	30.087	112.00	760.43	1254.04	791.73	41.945
	43.00	267.99	403.35	240.43	30.365	113.00	767.32	1268.60	802.10	42.074
	44.00	275.84	415.09	247.40	30.635	114.00	774.20	1283.23	812.55	42.203
	45.00	283.62	426.77	254.35	30.898	115.00	781.09	1297.94	823.06	42.332
	46.00	291.35	438.39	261.26	31.153	116.00	787.97	1312.70	833.65	42.460
	47.00	299.03	449.94	268.15	31.402	117.00	794.85	1327.54	844.30	42.587
	48.00	306.67	461.45	275.01	31.644	118.00	801.73	1342.45	855.02	42.714
	49.00	314.26	472.92	281.86	31.880	119.00	808.61	1357.41	865.80	42.840
	50.00	321.81	484.34	288.70	32.111	120.00	815.49	1372.45	876.65	42.966
	51.00	329.32	495.74	295.53	32.337	121.00	822.37	1387.53	887.56	43.091
	52.00	336.80	507.10	302.35	32.558	122.00	829.25	1402.68	898.52	43.216
	53.00	344.25	518.45	309.16	32.774	123.00	836.13	1417.88	909.54	43.340
	54.00	351.67	529.77	315.98	32.985	124.00	843.01	1433.14	920.62	43.464
	55.00	359.06	541.08	322.79	33.193	125.00	849.88	1448.46	931.76	43.587
	56.00	366.42	552.38	329.61	33.396	126.00	856.75	1463.84	942.97	43.709
	57.00	373.76	563.67	336.44	33.596	127.00	863.61	1479.28	954.23	43.831
	58.00	381.08	574.95	343.28	33.793	128.00	870.47	1494.77	965.55	43.953
	59.00	388.37	586.24	350.13	33.985	129.00	877.34	1510.31	976.92	44.074
	60.00	395.65	597.53	356.99	34.175	130.00	884.19	1525.90	988.34	44.194
	61.00	402.90	608.82	363.88	34.362	131.00	891.05	1541.54	999.81	44.314
	62.00	410.14	620.13	370.79	34.546	132.00	897.91	1557.23	1011.33	44.433
	63.00	417.36	631.45	377.71	34.727	133.00	904.77	1572.96	1022.90	44.552
	64.00	424.57	642.79	384.67	34.905	134.00	911.62	1588.74	1034.51	44.670
	65.00	431.76	654.14	391.66	35.082	135.00	918.47	1604.57	1046.17	44.788
	66.00	438.93	665.52	398.68	35.255	136.00	925.33	1620.43	1057.86	44.905
	67.00	446.09	676.93	405.74	35.427	137.00	932.18	1636.34	1069.61	45.021
	68.00	453.24	688.37	412.83	35.596	138.00	939.03	1652.28	1081.39	45.137
	69.00	460.37	699.84	419.96	35.764	139.00	945.88	1668.27	1093.21	45.253
	70.00	467.49	711.35	427.14	35.929	140.00	952.73	1684.29	1105.06	45.368
	71.00	474.61	722.89	434.36	36.093	141.00	959.57	1700.34	1116.95	45.482
	72.00	481.71	734.48	441.63	36.255	142.00	966.42	1716.43	1128.88	45.595
	73.00	488.80	746.11	448.95	36.416	143.00	973.27	1732.55	1140.84	45.709
	74.00	495.88	757.79	456.32	36.574	144.00	980.11	1748.70	1152.82	45.821
	75.00	502.95	769.53	463.75	36.732	145.00	986.96	1764.88	1164.84	45.933
	76.00	510.01	781.31	471.24	36.888	146.00	993.80	1781.09	1176.89	46.045
	77.00	517.07	793.15	478.80	37.043	147.00	1000.65	1797.32	1188.96	46.155
	78.00	524.11	805.05	486.41	37.196	148.00	1007.49	1813.58	1201.06	46.266
	79.00	531.15	817.01	494.09	37.349	149.00	1014.33	1829.86	1213.18	46.375
	80.00	538.18	829.03	501.84	37.500	150.00	1021.17	1846.16	1225.32	46.484
	81.00	545.21	841.12	509.66	37.650	151.00	1028.01	1862.43	1237.43	46.592
	82.00	552.22	853.27	517.55	37.799	152.00	1034.85	1878.71	1249.56	46.700
	83.00	559.23	865.50	525.51	37.947	153.00	1041.68	1895.01	1261.71	46.807
	84.00	566.24	877.79	533.55	38.095	154.00	1048.52	1911.33	1273.87	46.913
	85.00	573.24	890.17	541.66	38.241	155.00	1055.35	1927.66	1286.04	47.019
	86.00	580.23	902.61	549.86	38.387	156.00	1062.19	1944.00	1298.22	47.124
	87.00	587.22	915.13	558.14	38.531	157.00	1069.02	1960.35	1310.42	47.228
	88.00	594.20	927.73	566.49	38.675	158.00	1075.86	1976.71	1322.63	47.332
	89.00	601.17	940.41	574.93	38.819	159.00	1082.69	1993.08	1334.85	47.435
	90.00	608.14	953.17	583.45	38.961	160.00	1089.52	2009.46	1347.07	47.538

* PHASE CHANGE

TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)	TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)
161.00	1096.35	2025.85	1359.31	47.640	231.00	1573.44	3154.90	2198.30	53.472
162.00	1103.18	2042.25	1371.55	47.742	232.00	1580.25	3170.52	2209.78	53.540
163.00	1110.01	2058.64	1383.79	47.843	233.00	1587.06	3186.11	2221.23	53.607
164.00	1116.85	2075.05	1396.04	47.943	234.00	1593.87	3201.69	2232.67	53.674
165.00	1123.68	2091.46	1408.30	48.043	235.00	1600.68	3217.26	2244.10	53.740
166.00	1130.51	2107.87	1420.56	48.142	236.00	1607.48	3232.81	2255.51	53.806
167.00	1137.34	2124.28	1432.82	48.240	237.00	1614.29	3248.34	2266.90	53.872
168.00	1144.17	2140.70	1445.08	48.338	238.00	1621.10	3263.85	2278.28	53.937
169.00	1150.99	2157.11	1457.35	48.436	239.00	1627.90	3279.35	2289.64	54.002
170.00	1157.82	2173.53	1469.61	48.533	240.00	1634.70	3294.83	2300.98	54.067
171.00	1164.65	2189.94	1481.87	48.629	241.00	1641.51	3310.29	2312.31	54.131
172.00	1171.47	2206.35	1494.14	48.725	242.00	1648.31	3325.74	2323.62	54.195
173.00	1178.30	2222.77	1506.40	48.820	243.00	1655.11	3341.17	2334.92	54.258
174.00	1185.12	2239.18	1518.66	48.914	244.00	1661.91	3356.59	2346.20	54.322
175.00	1191.94	2255.58	1530.92	49.008	245.00	1668.71	3371.99	2357.47	54.385
176.00	1198.77	2271.98	1543.17	49.102	246.00	1675.51	3387.37	2368.72	54.447
177.00	1205.59	2288.38	1555.42	49.195	247.00	1682.30	3402.74	2379.95	54.510
178.00	1212.41	2304.77	1567.66	49.287	248.00	1689.10	3418.09	2391.17	54.572
179.00	1219.23	2321.15	1579.90	49.379	249.00	1695.89	3433.42	2402.38	54.633
180.00	1226.05	2337.53	1592.13	49.470	250.00	1702.68	3448.74	2413.57	54.695
181.00	1232.87	2353.90	1604.35	49.561	251.00	1709.47	3464.08	2424.78	54.756
182.00	1239.69	2370.26	1616.57	49.651	252.00	1716.26	3479.41	2435.98	54.817
183.00	1246.51	2386.61	1628.78	49.741	253.00	1723.05	3494.72	2447.16	54.878
184.00	1253.33	2402.95	1640.97	49.830	254.00	1729.84	3510.02	2458.33	54.938
185.00	1260.15	2419.29	1653.16	49.918	255.00	1736.62	3525.30	2469.49	54.998
186.00	1266.96	2435.61	1665.34	50.006	256.00	1743.41	3540.56	2480.63	55.058
187.00	1273.78	2451.93	1677.51	50.094	257.00	1750.19	3555.82	2491.76	55.117
188.00	1280.60	2468.23	1689.67	50.181	258.00	1756.97	3571.06	2502.88	55.177
189.00	1287.42	2484.52	1701.82	50.267	259.00	1763.75	3586.28	2513.98	55.235
190.00	1294.23	2500.80	1713.95	50.353	260.00	1770.53	3601.50	2525.07	55.294
191.00	1301.05	2517.07	1726.07	50.438	261.00	1777.31	3616.70	2536.15	55.352
192.00	1307.87	2533.32	1738.18	50.523	262.00	1784.09	3631.88	2547.21	55.410
193.00	1314.68	2549.56	1750.28	50.608	263.00	1790.87	3647.06	2558.27	55.468
194.00	1321.50	2565.79	1762.37	50.691	264.00	1797.65	3662.22	2569.31	55.526
195.00	1328.31	2582.01	1774.44	50.775	265.00	1804.43	3677.37	2580.34	55.583
196.00	1335.13	2598.21	1786.50	50.858	266.00	1811.21	3692.51	2591.36	55.640
197.00	1341.94	2614.39	1798.54	50.940	267.00	1817.98	3707.64	2602.36	55.697
198.00	1348.75	2630.57	1810.57	51.022	268.00	1824.76	3722.75	2613.36	55.753
199.00	1355.57	2646.72	1822.58	51.103	269.00	1831.54	3737.86	2624.35	55.810
200.00	1362.38	2662.86	1834.58	51.184	270.00	1838.32	3752.96	2635.32	55.866
201.00	1369.19	2678.98	1846.56	51.265	271.00	1845.10	3768.04	2646.29	55.921
202.00	1376.00	2695.08	1858.52	51.345	272.00	1851.88	3783.12	2657.24	55.977
203.00	1382.81	2711.17	1870.46	51.424	273.00	1858.66	3798.19	2668.19	56.032
204.00	1389.62	2727.24	1882.39	51.503	274.00	1865.44	3813.25	2679.12	56.087
205.00	1396.43	2743.29	1894.31	51.581	275.00	1872.22	3828.30	2690.05	56.142
206.00	1403.24	2759.33	1906.21	51.659	276.00	1879.01	3843.34	2700.97	56.197
207.00	1410.05	2775.35	1918.09	51.737	277.00	1885.80	3858.38	2711.88	56.251
208.00	1416.86	2791.36	1929.95	51.814	278.00	1892.58	3873.41	2722.78	56.305
209.00	1423.67	2807.35	1941.80	51.891	279.00	1899.37	3888.43	2733.67	56.359
210.00	1430.48	2823.32	1953.64	51.967	280.00	1906.17	3903.44	2744.56	56.413
211.00	1437.29	2839.27	1965.45	52.043	281.00	1912.96	3918.45	2755.44	56.466
212.00	1444.10	2855.21	1977.25	52.118	282.00	1919.76	3933.45	2766.30	56.520
213.00	1450.90	2871.13	1989.03	52.193	283.00	1926.56	3948.45	2777.17	56.573
214.00	1457.71	2887.04	2000.80	52.268	284.00	1933.36	3963.44	2788.02	56.626
215.00	1464.52	2902.93	2012.55	52.342	285.00	1940.17	3978.42	2798.87	56.678
216.00	1471.33	2918.80	2024.28	52.415	286.00	1946.98	3993.40	2809.71	56.731
217.00	1478.14	2934.66	2036.00	52.489	287.00	1953.79	4008.37	2820.54	56.783
218.00	1484.94	2950.50	2047.70	52.562	288.00	1960.60	4023.34	2831.36	56.835
219.00	1491.75	2966.32	2059.39	52.634	289.00	1967.42	4038.30	2842.18	56.887
220.00	1498.56	2982.13	2071.05	52.706	290.00	1974.23	4053.26	2852.99	56.939
221.00	1505.37	2997.91	2082.70	52.778	291.00	1981.05	4068.21	2863.80	56.990
222.00	1512.18	3013.69	2094.34	52.849	292.00	1987.88	4083.16	2874.60	57.041
223.00	1518.98	3029.44	2105.95	52.920	293.00	1994.70	4098.10	2885.39	57.093
224.00	1525.79	3045.18	2117.55	52.990	294.00	2001.53	4113.04	2896.17	57.143
225.00	1532.60	3060.91	2129.14	53.060	295.00	2008.36	4127.97	2906.95	57.194
226.00	1539.41	3076.61	2140.70	53.130	296.00	2015.19	4142.89	2917.72	57.245
227.00	1546.21	3092.30	2152.26	53.199	297.00	2022.02	4157.81	2928.49	57.295
228.00	1553.02	3107.97	2163.79	53.268	298.00	2028.86	4172.72	2939.25	57.345
229.00	1559.83	3123.63	2175.31	53.336	299.00	2035.69	4187.63	2950.00	57.395
230.00	1566.63	3139.27	2186.81	53.405	300.00	2042.52	4202.53	2960.74	57.445

7.00 ATMOSPHERE ISOBAR

	TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)
	20.00	13.91	-252.40	-262.27	7.756
	21.00	14.13	-242.82	-252.84	8.226
	22.00	14.37	-232.63	-242.83	8.697
	23.00	14.65	-221.77	-232.16	9.182
	24.00	14.95	-210.15	-220.76	9.678
	25.00	15.31	-197.65	-208.51	10.187
	26.00	15.72	-184.08	-195.22	10.718
	27.00	16.20	-169.15	-180.64	11.281
	28.00	16.81	-152.39	-164.32	11.892
	29.00	17.62	-132.84	-145.33	12.575
*	29.094	17.73	-130.79	-143.36	12.647
*	29.094	110.76	192.30	113.74	23.773
	30.00	121.83	213.17	126.76	24.480
	31.00	132.34	232.38	138.50	25.110
	32.00	141.87	249.39	148.77	25.650
	33.00	150.76	265.06	158.13	26.132
	34.00	159.22	279.84	166.91	26.574
	35.00	167.34	293.98	175.28	26.983
	36.00	175.22	307.64	183.36	27.368
	37.00	182.89	320.93	191.21	27.733
	38.00	190.40	333.94	198.89	28.079
	39.00	197.77	346.71	206.43	28.411
	40.00	205.02	359.28	213.87	28.729
	41.00	212.17	371.69	221.21	29.036
	42.00	219.22	383.96	228.47	29.331
	43.00	226.19	396.10	235.67	29.617
	44.00	233.10	408.15	242.81	29.894
	45.00	239.93	420.09	249.91	30.162
	46.00	246.71	431.96	256.97	30.423
	47.00	253.44	443.75	263.99	30.677
	48.00	260.12	455.48	270.99	30.924
	49.00	266.75	467.15	277.96	31.165
	50.00	273.34	478.78	284.90	31.399
	51.00	279.89	490.35	291.83	31.629
	52.00	286.41	501.90	298.75	31.853
	53.00	292.89	513.40	305.67	32.072
	54.00	299.34	524.89	312.57	32.287
	55.00	305.77	536.34	319.47	32.497
	56.00	312.17	547.79	326.37	32.703
	57.00	318.54	559.21	333.28	32.905
	58.00	324.89	570.63	340.19	33.104
	59.00	331.22	582.04	347.12	33.299
	60.00	337.52	593.45	354.05	33.491
	61.00	343.81	604.86	361.00	33.679
	62.00	350.08	616.27	367.97	33.865
	63.00	356.33	627.70	374.97	34.048
	64.00	362.57	639.14	381.98	34.228
	65.00	368.79	650.60	389.02	34.405
	66.00	374.99	662.07	396.10	34.581
	67.00	381.18	673.57	403.21	34.754
	68.00	387.36	685.10	410.35	34.924
	69.00	393.53	696.65	417.53	35.093
	70.00	399.68	708.24	424.76	35.260
	71.00	405.82	719.86	432.02	35.425
	72.00	411.95	731.53	439.34	35.588
	73.00	418.07	743.23	446.70	35.749
	74.00	424.18	754.98	454.12	35.909
	75.00	430.29	766.78	461.59	36.068
	76.00	436.38	778.63	469.12	36.224
	77.00	442.46	790.54	476.71	36.380
	78.00	448.54	802.50	484.36	36.534
	79.00	454.61	814.52	492.08	36.688
	80.00	460.67	826.60	499.86	36.839
	81.00	466.72	838.75	507.71	36.990
	82.00	472.77	850.96	515.63	37.140
	83.00	478.81	863.23	523.63	37.289
	84.00	484.84	875.59	531.70	37.437
	85.00	490.87	888.01	539.84	37.584
	86.00	496.89	900.50	548.07	37.730
	87.00	502.91	913.07	556.37	37.875
	88.00	508.92	925.72	564.75	38.020
	89.00	514.93	938.44	573.22	38.164
	90.00	520.93	951.24	581.76	38.307
	91.00	526.93	964.13	590.39	38.449
	92.00	532.92	977.09	599.11	38.591
	93.00	538.90	990.14	607.90	38.732
	94.00	544.89	1003.26	616.78	38.872
	95.00	550.87	1016.46	625.75	39.012
	96.00	556.84	1029.75	634.79	39.151
	97.00	562.81	1043.11	643.92	39.289
	98.00	568.78	1056.55	653.13	39.427
	99.00	574.74	1070.07	662.42	39.565
	100.00	580.70	1083.67	671.79	39.701
	101.00	586.66	1097.34	681.23	39.837
	102.00	592.60	1111.08	690.76	39.973
	103.00	598.54	1124.91	700.37	40.108
	104.00	604.48	1138.82	710.07	40.242
	105.00	610.41	1152.80	719.84	40.376
	106.00	616.34	1166.87	729.70	40.509
	107.00	622.27	1181.01	739.63	40.642
	108.00	628.20	1195.22	749.65	40.774
	109.00	634.12	1209.51	759.74	40.906
	110.00	640.04	1223.88	769.90	41.037
	111.00	645.96	1238.32	780.14	41.168
	112.00	651.88	1252.83	790.46	41.298
	113.00	657.80	1267.42	800.85	41.428
	114.00	663.71	1282.07	811.30	41.557
	115.00	669.63	1296.80	821.83	41.685
	116.00	675.54	1311.59	832.43	41.813
	117.00	681.45	1326.45	843.09	41.941
	118.00	687.37	1341.37	853.83	42.068
	119.00	693.28	1356.36	864.62	42.194
	120.00	699.19	1371.41	875.48	42.320
	121.00	705.09	1386.51	886.40	42.446
	122.00	711.00	1401.68	897.37	42.570
	123.00	716.91	1416.90	908.40	42.695
	124.00	722.82	1432.18	919.49	42.818
	125.00	728.72	1447.52	930.64	42.942
	126.00	734.62	1462.92	941.86	43.064
	127.00	740.51	1478.37	953.13	43.186
	128.00	746.40	1493.88	964.46	43.308
	129.00	752.30	1509.43	975.83	43.429
	130.00	758.18	1525.04	987.26	43.550
	131.00	764.07	1540.70	998.74	43.670
	132.00	769.96	1556.40	1010.27	43.789
	133.00	775.85	1572.15	1021.85	43.908
	134.00	781.73	1587.95	1033.47	44.026
	135.00	787.62	1603.79	1045.13	44.144
	136.00	793.50	1619.67	1056.84	44.261
	137.00	799.38	1635.59	1068.59	44.378
	138.00	805.26	1651.55	1080.38	44.494
	139.00	811.14	1667.55	1092.21	44.609
	140.00	817.02	1683.58	1104.07	44.724
	141.00	822.90	1699.65	1115.97	44.839
	142.00	828.78	1715.75	1127.90	44.953
	143.00	834.66	1731.88	1139.87	45.066
	144.00	840.53	1748.05	1151.86	45.178
	145.00	846.41	1764.24	1163.89	45.290
	146.00	852.28	1780.46	1175.94	45.402
	147.00	858.16	1796.71	1188.02	45.513
	148.00	864.03	1812.98	1200.13	45.623
	149.00	869.91	1829.27	1212.25	45.733
	150.00	875.78	1845.59	1224.40	45.842
	151.00	881.65	1861.87	1236.52	45.950
	152.00	887.51	1878.17	1248.66	46.058
	153.00	893.38	1894.48	1260.81	46.165
	154.00	899.25	1910.81	1272.97	46.271
	155.00	905.11	1927.15	1285.15	46.377
	156.00	910.98	1943.50	1297.35	46.482
	157.00	916.84	1959.86	1309.55	46.587
	158.00	922.71	1976.23	1321.76	46.691
	159.00	928.57	1992.62	1333.99	46.794
	160.00	934.43	2009.01	1346.22	46.897

* PHASE CHANGE

TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)	TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)
161.00	940.29	2025.41	1358.46	46.999	231.00	1349.53	3154.98	2197.77	52.834
162.00	946.16	2041.81	1370.71	47.100	232.00	1355.37	3170.60	2209.24	52.901
163.00	952.02	2058.22	1382.96	47.201	233.00	1361.21	3186.20	2220.70	52.968
164.00	957.88	2074.64	1395.22	47.302	234.00	1367.05	3201.79	2232.15	53.035
165.00	963.74	2091.05	1407.48	47.402	235.00	1372.89	3217.36	2243.58	53.101
166.00	969.60	2107.48	1419.74	47.501	236.00	1378.72	3232.91	2254.99	53.167
167.00	975.46	2123.90	1432.01	47.599	237.00	1384.56	3248.45	2266.39	53.233
168.00	981.32	2140.32	1444.28	47.698	238.00	1390.40	3263.96	2277.76	53.298
169.00	987.18	2156.75	1456.55	47.795	239.00	1396.23	3279.47	2289.13	53.363
170.00	993.04	2173.17	1468.82	47.892	240.00	1402.07	3294.95	2300.47	53.428
171.00	998.89	2189.60	1481.09	47.988	241.00	1407.90	3310.42	2311.81	53.492
172.00	1004.75	2206.02	1493.36	48.084	242.00	1413.73	3325.87	2323.12	53.556
173.00	1010.60	2222.44	1505.63	48.179	243.00	1419.56	3341.31	2334.42	53.620
174.00	1016.46	2238.86	1517.89	48.274	244.00	1425.39	3356.73	2345.71	53.683
175.00	1022.31	2255.28	1530.16	48.368	245.00	1431.22	3372.13	2356.97	53.746
176.00	1028.17	2271.69	1542.41	48.461	246.00	1437.05	3387.52	2368.23	53.809
177.00	1034.02	2288.09	1554.67	48.554	247.00	1442.88	3402.89	2379.47	53.871
178.00	1039.87	2304.49	1566.91	48.647	248.00	1448.71	3418.25	2390.69	53.933
179.00	1045.72	2320.88	1579.16	48.739	249.00	1454.53	3433.59	2401.90	53.995
180.00	1051.57	2337.27	1591.39	48.830	250.00	1460.36	3448.92	2413.09	54.057
181.00	1057.42	2353.64	1603.62	48.921	251.00	1466.18	3464.26	2424.31	54.118
182.00	1063.27	2370.01	1615.84	49.011	252.00	1472.00	3479.59	2435.51	54.179
183.00	1069.12	2386.38	1628.05	49.100	253.00	1477.82	3494.91	2446.70	54.240
184.00	1074.97	2402.73	1640.25	49.190	254.00	1483.64	3510.21	2457.87	54.300
185.00	1080.82	2419.07	1652.45	49.278	255.00	1489.46	3525.49	2469.03	54.360
186.00	1086.67	2435.40	1664.63	49.366	256.00	1495.28	3540.76	2480.17	54.420
187.00	1092.52	2451.72	1676.81	49.454	257.00	1501.10	3556.02	2491.30	54.479
188.00	1098.37	2468.03	1688.97	49.541	258.00	1506.91	3571.27	2502.42	54.538
189.00	1104.22	2484.33	1701.12	49.627	259.00	1512.73	3586.50	2513.53	54.597
190.00	1110.06	2500.62	1713.26	49.713	260.00	1518.54	3601.71	2524.62	54.656
191.00	1115.91	2516.90	1725.39	49.798	261.00	1524.35	3616.92	2535.70	54.714
192.00	1121.76	2533.16	1737.50	49.883	262.00	1530.17	3632.11	2546.77	54.772
193.00	1127.60	2549.41	1749.60	49.968	263.00	1535.98	3647.29	2557.83	54.830
194.00	1133.45	2565.64	1761.69	50.052	264.00	1541.79	3662.45	2568.87	54.888
195.00	1139.30	2581.86	1773.77	50.135	265.00	1547.60	3677.61	2579.90	54.945
196.00	1145.14	2598.07	1785.83	50.218	266.00	1553.42	3692.75	2590.92	55.002
197.00	1150.99	2614.26	1797.88	50.300	267.00	1559.23	3707.88	2601.93	55.059
198.00	1156.83	2630.44	1809.91	50.382	268.00	1565.04	3723.01	2612.93	55.115
199.00	1162.68	2646.61	1821.93	50.464	269.00	1570.85	3738.12	2623.92	55.172
200.00	1168.52	2662.75	1833.93	50.545	270.00	1576.66	3753.22	2634.90	55.228
201.00	1174.36	2678.88	1845.91	50.625	271.00	1582.48	3768.31	2645.87	55.284
202.00	1180.20	2694.99	1857.88	50.705	272.00	1588.29	3783.39	2656.83	55.339
203.00	1186.04	2711.08	1869.83	50.785	273.00	1594.10	3798.46	2667.77	55.394
204.00	1191.89	2727.16	1881.76	50.864	274.00	1599.92	3813.53	2678.71	55.449
205.00	1197.73	2743.22	1893.68	50.942	275.00	1605.74	3828.58	2689.64	55.504
206.00	1203.57	2759.26	1905.58	51.020	276.00	1611.55	3843.63	2700.56	55.559
207.00	1209.41	2775.29	1917.47	51.098	277.00	1617.37	3858.67	2711.47	55.613
208.00	1215.25	2791.30	1929.33	51.175	278.00	1623.19	3873.70	2722.38	55.667
209.00	1221.09	2807.30	1941.19	51.252	279.00	1629.02	3888.72	2733.27	55.721
210.00	1226.93	2823.28	1953.02	51.328	280.00	1634.84	3903.74	2744.16	55.775
211.00	1232.77	2839.24	1964.85	51.404	281.00	1640.67	3918.75	2755.04	55.829
212.00	1238.60	2855.18	1976.65	51.479	282.00	1646.49	3933.76	2765.91	55.882
213.00	1244.44	2871.11	1988.44	51.554	283.00	1652.32	3948.76	2776.77	55.935
214.00	1250.28	2887.02	2000.21	51.629	284.00	1658.16	3963.75	2787.63	55.988
215.00	1256.12	2902.92	2011.96	51.703	285.00	1663.99	3978.73	2798.48	56.041
216.00	1261.96	2918.80	2023.70	51.776	286.00	1669.83	3993.72	2809.32	56.093
217.00	1267.80	2934.66	2035.42	51.850	287.00	1675.67	4008.69	2820.15	56.145
218.00	1273.64	2950.51	2047.12	51.923	288.00	1681.51	4023.66	2830.98	56.197
219.00	1279.48	2966.33	2058.81	51.995	289.00	1687.35	4038.63	2841.80	56.249
220.00	1285.32	2982.15	2070.48	52.067	290.00	1693.20	4053.58	2852.61	56.301
221.00	1291.15	2997.94	2082.13	52.139	291.00	1699.04	4068.54	2863.42	56.352
222.00	1296.99	3013.72	2093.77	52.210	292.00	1704.89	4083.49	2874.22	56.404
223.00	1302.83	3029.48	2105.39	52.281	293.00	1710.74	4098.43	2885.01	56.455
224.00	1308.67	3045.23	2116.99	52.351	294.00	1716.60	4113.37	2895.80	56.506
225.00	1314.51	3060.95	2128.58	52.421	295.00	1722.45	4128.30	2906.58	56.556
226.00	1320.34	3076.67	2140.15	52.491	296.00	1728.31	4143.23	2917.35	56.607
227.00	1326.18	3092.36	2151.71	52.560	297.00	1734.16	4158.14	2928.11	56.657
228.00	1332.02	3108.04	2163.25	52.629	298.00	1740.02	4173.06	2938.87	56.707
229.00	1337.86	3123.70	2174.77	52.698	299.00	1745.88	4187.97	2949.63	56.757
230.00	1343.69	3139.35	2186.27	52.766	300.00	1751.73	4202.86	2960.37	56.807

8.00 ATMOSPHERE ISO8AR

	TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)	TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)
	20.00	13.88	-251.42	-262.67	7.735					
	21.00	14.10	-241.88	-253.31	8.202					
	22.00	14.34	-231.75	-243.37	8.671	91.00	460.80	962.26	588.73	37.880
	23.00	14.61	-220.96	-232.80	9.153	92.00	466.06	975.26	597.47	38.022
	24.00	14.91	-209.43	-221.52	9.645	93.00	471.32	988.34	606.29	38.164
	25.00	15.25	-197.05	-209.41	10.149	94.00	476.58	1001.51	615.19	38.305
	26.00	15.65	-183.64	-196.32	10.674	95.00	481.83	1014.75	624.18	38.445
	27.00	16.12	-168.95	-182.02	11.227	96.00	487.07	1028.07	633.25	38.584
	28.00	16.70	-152.59	-166.12	11.824	97.00	492.32	1041.47	642.40	38.723
	29.00	17.45	-133.75	-147.89	12.482	98.00	497.56	1054.95	651.63	38.861
*	29.907	18.45	-113.03	-127.98	13.187	99.00	502.79	1068.51	660.94	38.999
*	29.907	94.60	185.22	108.54	23.181	100.00	508.03	1082.14	670.33	39.136
	30.00	95.83	187.97	110.29	23.273					
	31.00	107.28	212.88	125.92	24.091	101.00	513.25	1095.84	679.78	39.272
	32.00	116.89	233.04	138.28	24.731	102.00	518.47	1109.62	689.33	39.408
	33.00	125.54	250.76	148.99	25.276	103.00	523.69	1123.47	698.96	39.543
	34.00	133.58	266.99	158.71	25.761	104.00	528.90	1137.41	708.67	39.678
	35.00	141.20	282.24	167.79	26.203	105.00	534.11	1151.42	718.46	39.812
	36.00	148.50	296.79	176.42	26.613	106.00	539.32	1165.52	728.33	39.946
	37.00	155.56	310.82	184.72	26.997	107.00	544.52	1179.68	738.28	40.079
	38.00	162.43	324.44	192.77	27.361	108.00	549.72	1193.93	748.31	40.211
	39.00	169.15	337.75	200.64	27.706	109.00	554.92	1208.25	758.41	40.343
	40.00	175.72	350.78	208.34	28.036	110.00	560.12	1222.64	768.59	40.475
	41.00	182.19	363.61	215.93	28.353	111.00	565.31	1237.10	778.85	40.605
	42.00	188.55	376.25	223.41	28.658	112.00	570.50	1251.64	789.18	40.736
	43.00	194.83	388.74	230.81	28.951	113.00	575.69	1266.25	799.58	40.866
	44.00	201.03	401.09	238.13	29.235	114.00	580.88	1280.92	810.05	40.995
	45.00	207.16	413.32	245.40	29.510	115.00	586.06	1295.67	820.59	41.124
	46.00	213.23	425.45	252.61	29.777	116.00	591.25	1310.48	831.20	41.252
	47.00	219.24	437.49	259.77	30.036	117.00	596.43	1325.36	841.88	41.380
	48.00	225.20	449.45	266.90	30.288	118.00	601.61	1340.31	852.63	41.507
	49.00	231.11	461.34	273.99	30.533	119.00	606.79	1355.31	863.44	41.634
	50.00	236.99	473.16	281.06	30.772	120.00	611.97	1370.39	874.31	41.760
	51.00	242.82	484.93	288.10	31.005	121.00	617.14	1385.51	885.24	41.885
	52.00	248.61	496.65	295.13	31.232	122.00	622.32	1400.69	896.23	42.010
	53.00	254.38	508.34	302.14	31.455	123.00	627.49	1415.93	907.27	42.135
	54.00	260.11	519.97	309.13	31.672	124.00	632.66	1431.23	918.38	42.258
	55.00	265.81	531.59	316.13	31.886	125.00	637.84	1446.58	929.54	42.382
	56.00	271.48	543.18	323.11	32.094	126.00	643.00	1462.00	940.77	42.505
	57.00	277.13	554.74	330.10	32.299	127.00	648.16	1477.47	952.05	42.627
	58.00	282.76	566.29	337.09	32.500	128.00	653.32	1492.99	963.39	42.749
	59.00	288.36	577.83	344.09	32.697	129.00	658.49	1508.56	974.78	42.870
	60.00	293.94	589.36	351.10	32.891	130.00	663.64	1524.19	986.22	42.990
	61.00	299.50	600.89	358.11	33.082	131.00	668.80	1539.86	997.71	43.111
	62.00	305.05	612.42	365.15	33.269	132.00	673.96	1555.58	1009.25	43.230
	63.00	310.57	623.95	372.20	33.454	133.00	679.12	1571.34	1020.84	43.349
	64.00	316.08	635.50	379.28	33.635	134.00	684.27	1587.16	1032.47	43.467
	65.00	321.57	647.05	386.38	33.814	135.00	689.43	1603.01	1044.14	43.585
	66.00	327.05	658.62	393.51	33.991	136.00	694.58	1618.90	1055.86	43.703
	67.00	332.51	670.21	400.67	34.165	137.00	699.74	1634.84	1067.62	43.819
	68.00	337.97	681.82	407.87	34.337	138.00	704.89	1650.81	1079.41	43.936
	69.00	343.40	693.46	415.10	34.507	139.00	710.05	1666.83	1091.25	44.051
	70.00	348.83	705.13	422.37	34.675	140.00	715.20	1682.88	1103.12	44.166
	71.00	354.25	716.84	429.69	34.841	141.00	720.35	1698.96	1115.03	44.281
	72.00	359.65	728.58	437.05	35.006	142.00	725.50	1715.07	1126.96	44.395
	73.00	365.04	740.36	444.45	35.168	143.00	730.66	1731.22	1138.94	44.508
	74.00	370.43	752.18	451.91	35.329	144.00	735.81	1747.40	1150.94	44.621
	75.00	375.80	764.05	459.43	35.488	145.00	740.96	1763.61	1162.97	44.733
	76.00	381.17	775.97	466.99	35.646	146.00	746.11	1779.84	1175.03	44.844
	77.00	386.52	787.94	474.62	35.802	147.00	751.26	1796.10	1187.11	44.955
	78.00	391.87	799.96	482.31	35.958	148.00	756.41	1812.38	1199.22	45.066
	79.00	397.21	812.04	490.06	36.112	149.00	761.56	1828.69	1211.35	45.176
	80.00	402.55	824.18	497.88	36.264	150.00	766.71	1845.02	1223.51	45.285
	81.00	407.87	836.39	505.77	36.416	151.00	771.85	1861.31	1235.63	45.393
	82.00	413.19	848.65	513.72	36.566	152.00	777.00	1877.62	1247.77	45.501
	83.00	418.50	860.98	521.74	36.716	153.00	782.14	1893.95	1259.93	45.608
	84.00	423.81	873.38	529.85	36.864	154.00	787.28	1910.29	1272.10	45.714
	85.00	429.11	885.86	538.02	37.012	155.00	792.42	1926.64	1284.29	45.820
	86.00	434.40	898.40	546.28	37.159	156.00	797.55	1943.00	1296.49	45.925
	87.00	439.69	911.02	554.61	37.305	157.00	802.69	1959.38	1308.70	46.030
	88.00	444.98	923.71	563.02	37.450	158.00	807.83	1975.76	1320.92	46.134
	89.00	450.26	936.48	571.51	37.594	159.00	812.97	1992.16	1333.15	46.237
	90.00	455.53	949.33	580.08	37.737	160.00	818.10	2008.56	1345.39	46.340

* PHASE CHANGE

TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)	TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)
161.00	823.24	2024.97	1357.63	46.442	231.00	1181.58	3155.06	2197.25	52.280
162.00	828.37	2041.38	1369.89	46.544	232.00	1186.69	3170.69	2208.73	52.348
163.00	833.51	2057.80	1382.15	46.645	233.00	1191.80	3186.29	2220.19	52.415
164.00	838.64	2074.23	1394.41	46.746	234.00	1196.91	3201.88	2231.64	52.481
165.00	843.77	2090.66	1406.68	46.846	235.00	1202.02	3217.46	2243.07	52.548
166.00	848.91	2107.09	1418.95	46.945	236.00	1207.13	3233.02	2254.49	52.614
167.00	854.04	2123.53	1431.22	47.043	237.00	1212.24	3248.56	2265.89	52.680
168.00	859.17	2139.96	1443.50	47.142	238.00	1217.35	3264.08	2277.27	52.745
169.00	864.30	2156.40	1455.78	47.239	239.00	1222.46	3279.59	2288.64	52.810
170.00	869.43	2172.83	1468.05	47.336	240.00	1227.56	3295.08	2299.99	52.875
171.00	874.56	2189.27	1480.33	47.433	241.00	1232.67	3310.55	2311.32	52.939
172.00	879.69	2205.70	1492.61	47.528	242.00	1237.78	3326.01	2322.64	53.003
173.00	884.81	2222.13	1504.88	47.624	243.00	1242.88	3341.45	2333.94	53.067
174.00	889.94	2238.56	1517.15	47.718	244.00	1247.99	3356.88	2345.23	53.130
175.00	895.07	2254.98	1529.42	47.812	245.00	1253.09	3372.28	2356.50	53.193
176.00	900.19	2271.40	1541.68	47.906	246.00	1258.19	3387.68	2367.76	53.256
177.00	905.32	2287.81	1553.94	47.999	247.00	1263.29	3403.05	2379.00	53.318
178.00	910.44	2304.22	1566.20	48.091	248.00	1268.39	3418.41	2390.23	53.380
179.00	915.57	2320.62	1578.44	48.183	249.00	1273.49	3433.76	2401.44	53.442
180.00	920.69	2337.02	1590.68	48.275	250.00	1278.59	3449.09	2412.64	53.503
181.00	925.82	2353.40	1602.92	48.365	251.00	1283.69	3464.44	2423.86	53.565
182.00	930.94	2369.78	1615.14	48.456	252.00	1288.79	3479.78	2435.06	53.626
183.00	936.06	2386.15	1627.36	48.545	253.00	1293.88	3495.10	2446.25	53.686
184.00	941.19	2402.51	1639.57	48.634	254.00	1298.98	3510.40	2457.42	53.747
185.00	946.31	2418.86	1651.77	48.723	255.00	1304.07	3525.69	2468.59	53.807
186.00	951.43	2435.20	1663.95	48.811	256.00	1309.16	3540.97	2479.73	53.867
187.00	956.55	2451.53	1676.13	48.899	257.00	1314.25	3556.23	2490.87	53.926
188.00	961.67	2467.85	1688.30	48.986	258.00	1319.34	3571.48	2501.99	53.985
189.00	966.79	2484.16	1700.46	49.072	259.00	1324.44	3586.72	2513.10	54.044
190.00	971.91	2500.45	1712.60	49.158	260.00	1329.52	3601.94	2524.20	54.103
191.00	977.03	2516.74	1724.73	49.244	261.00	1334.61	3617.15	2535.28	54.161
192.00	982.15	2533.01	1736.85	49.329	262.00	1339.70	3632.34	2546.35	54.219
193.00	987.27	2549.26	1748.96	49.413	263.00	1344.79	3647.53	2557.41	54.277
194.00	992.39	2565.50	1761.05	49.497	264.00	1349.88	3662.70	2568.46	54.335
195.00	997.51	2581.73	1773.13	49.581	265.00	1354.97	3677.86	2579.49	54.392
196.00	1002.63	2597.95	1785.19	49.663	266.00	1360.05	3693.00	2590.51	54.449
197.00	1007.75	2614.15	1797.25	49.746	267.00	1365.14	3708.14	2601.53	54.506
198.00	1012.87	2630.33	1809.28	49.828	268.00	1370.23	3723.27	2612.53	54.563
199.00	1017.98	2646.50	1821.30	49.909	269.00	1375.32	3738.38	2623.52	54.619
200.00	1023.10	2662.66	1833.31	49.990	270.00	1380.40	3753.48	2634.50	54.675
201.00	1028.22	2678.79	1845.30	50.071	271.00	1385.49	3768.58	2645.47	54.731
202.00	1033.33	2694.90	1857.26	50.151	272.00	1390.58	3783.66	2656.43	54.786
203.00	1038.44	2711.00	1869.22	50.230	273.00	1395.67	3798.74	2667.38	54.842
204.00	1043.56	2727.09	1881.16	50.309	274.00	1400.76	3813.81	2678.32	54.897
205.00	1048.67	2743.15	1893.08	50.388	275.00	1405.85	3828.87	2689.25	54.952
206.00	1053.79	2759.20	1904.98	50.466	276.00	1410.94	3843.92	2700.18	55.006
207.00	1058.90	2775.24	1916.87	50.544	277.00	1416.04	3858.96	2711.09	55.061
208.00	1064.01	2791.26	1928.74	50.621	278.00	1421.13	3873.99	2721.99	55.115
209.00	1069.13	2807.26	1940.60	50.698	279.00	1426.23	3889.02	2732.89	55.169
210.00	1074.24	2823.24	1952.44	50.774	280.00	1431.32	3904.04	2743.78	55.222
211.00	1079.35	2839.21	1964.26	50.850	281.00	1436.42	3919.06	2754.66	55.276
212.00	1084.46	2855.16	1976.07	50.925	282.00	1441.52	3934.06	2765.53	55.329
213.00	1089.58	2871.10	1987.86	51.000	283.00	1446.63	3949.06	2776.40	55.382
214.00	1094.69	2887.01	1999.64	51.075	284.00	1451.73	3964.06	2787.26	55.435
215.00	1099.80	2902.91	2011.39	51.149	285.00	1456.84	3979.05	2798.11	55.488
216.00	1104.91	2918.80	2023.13	51.222	286.00	1461.94	3994.03	2808.95	55.540
217.00	1110.02	2934.67	2034.86	51.296	287.00	1467.05	4009.01	2819.78	55.593
218.00	1115.14	2950.52	2046.56	51.369	288.00	1472.17	4023.98	2830.61	55.645
219.00	1120.25	2966.35	2058.25	51.441	289.00	1477.28	4038.95	2841.43	55.697
220.00	1125.36	2982.17	2069.93	51.513	290.00	1482.39	4053.91	2852.25	55.748
221.00	1130.47	2997.97	2081.59	51.585	291.00	1487.51	4068.87	2863.06	55.800
222.00	1135.58	3013.75	2093.23	51.656	292.00	1492.63	4083.82	2873.86	55.851
223.00	1140.69	3029.52	2104.85	51.727	293.00	1497.75	4098.76	2884.65	55.902
224.00	1145.80	3045.27	2116.46	51.797	294.00	1502.87	4113.70	2895.44	55.953
225.00	1150.91	3061.00	2128.05	51.868	295.00	1508.00	4128.63	2906.22	56.004
226.00	1156.02	3076.72	2139.62	51.937	296.00	1513.12	4143.56	2916.99	56.054
227.00	1161.14	3092.42	2151.18	52.007	297.00	1518.24	4158.48	2927.76	56.105
228.00	1166.25	3108.10	2162.72	52.075	298.00	1523.37	4173.40	2938.52	56.155
229.00	1171.36	3123.77	2174.24	52.144	299.00	1528.50	4188.31	2949.28	56.205
230.00	1176.47	3139.42	2185.75	52.212	300.00	1533.62	4203.21	2960.02	56.255

9.00 ATMOSPHERE ISO8AR

	TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)	TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)
	20.00	13.86	-250.43	-263.06	7.714					
	21.00	14.07	-240.94	-253.77	8.179	91.00	409.37	960.39	587.07	37.376
	22.00	14.31	-230.86	-243.91	8.645	92.00	414.07	973.44	595.84	37.519
	23.00	14.57	-220.14	-233.43	9.124	93.00	418.77	986.56	604.68	37.661
	24.00	14.87	-208.69	-222.25	9.613	94.00	423.45	999.77	613.61	37.802
	25.00	15.20	-196.42	-210.29	10.112	95.00	428.14	1013.05	622.62	37.943
	26.00	15.59	-183.17	-197.38	10.631	96.00	432.82	1026.41	631.71	38.083
	27.00	16.04	-168.70	-183.33	11.176	97.00	437.50	1039.85	640.88	38.222
	28.00	16.59	-152.68	-167.82	11.760	98.00	442.17	1053.36	650.14	38.360
	29.00	17.29	-134.45	-150.22	12.397	99.00	446.84	1066.95	659.47	38.498
	30.00	18.27	-112.65	-129.30	13.137	100.00	451.51	1080.62	668.88	38.636
*	30.650	19.29	-94.75	-112.34	13.726					
*	30.650	81.66	176.79	102.32	22.609	101.00	456.17	1094.36	678.35	38.772
	31.00	86.14	188.23	109.67	22.980	102.00	460.83	1108.17	687.91	38.909
	32.00	96.64	214.03	125.90	23.800	103.00	465.48	1122.05	697.56	39.044
	33.00	105.43	234.82	138.67	24.440	104.00	470.13	1136.02	707.28	39.179
	34.00	113.32	253.05	149.72	24.984	105.00	474.78	1150.07	717.09	39.313
	35.00	120.64	269.73	159.72	25.468	106.00	479.43	1164.19	726.97	39.447
	36.00	127.56	285.37	169.04	25.908	107.00	484.07	1178.38	736.93	39.580
	37.00	134.19	300.26	177.89	26.316	108.00	488.71	1192.65	746.98	39.713
	38.00	140.59	314.59	186.38	26.699	109.00	493.34	1207.00	757.09	39.845
	39.00	146.82	328.50	194.61	27.060	110.00	497.98	1221.42	767.29	39.977
	40.00	152.89	342.06	202.64	27.403					
	41.00	158.83	355.34	210.50	27.731	111.00	502.60	1235.91	777.56	40.108
	42.00	164.67	368.39	218.22	28.045	112.00	507.23	1250.47	787.90	40.239
	43.00	170.41	381.24	225.84	28.348	113.00	511.85	1265.10	798.31	40.369
	44.00	176.07	393.92	233.36	28.639	114.00	516.47	1279.80	808.80	40.498
	45.00	181.65	406.45	240.80	28.921	115.00	521.09	1294.57	819.36	40.627
	46.00	187.18	418.86	248.17	29.194	116.00	525.71	1309.40	829.98	40.756
	47.00	192.64	431.16	255.49	29.458	117.00	530.32	1324.30	840.68	40.884
	48.00	198.04	443.36	262.76	29.715	118.00	534.93	1339.26	851.44	41.011
	49.00	203.40	455.47	269.99	29.965	119.00	539.53	1354.29	862.26	41.138
	50.00	208.72	467.51	277.17	30.208	120.00	544.14	1369.38	873.15	41.264
	51.00	213.99	479.47	284.33	30.445	121.00	548.74	1384.52	884.10	41.390
	52.00	219.23	491.38	291.46	30.676	122.00	553.34	1399.72	895.10	41.515
	53.00	224.43	503.24	298.57	30.902	123.00	557.94	1414.98	906.16	41.639
	54.00	229.60	515.05	305.67	31.123	124.00	562.54	1430.29	917.28	41.763
	55.00	234.74	526.82	312.75	31.339	125.00	567.14	1445.66	928.46	41.887
	56.00	239.85	538.56	319.83	31.550	126.00	571.73	1461.09	939.71	42.010
	57.00	244.94	550.26	326.90	31.758	127.00	576.32	1476.58	951.00	42.132
	58.00	250.00	561.95	333.97	31.961	128.00	580.91	1492.12	962.36	42.254
	59.00	255.04	573.62	341.04	32.160	129.00	585.50	1507.71	973.76	42.375
	60.00	260.06	585.27	348.12	32.356	130.00	590.09	1523.35	985.21	42.496
	61.00	265.05	596.92	355.21	32.549	131.00	594.68	1539.04	996.72	42.616
	62.00	270.03	608.56	362.31	32.738	132.00	599.27	1554.77	1008.27	42.736
	63.00	274.99	620.20	369.43	32.924	133.00	603.86	1570.55	1019.87	42.855
	64.00	279.94	631.85	376.57	33.108	134.00	608.45	1586.38	1031.51	42.974
	65.00	284.86	643.50	383.73	33.288	135.00	613.03	1602.25	1043.19	43.092
	66.00	289.78	655.17	390.92	33.467	136.00	617.62	1618.16	1054.92	43.209
	67.00	294.68	666.85	398.13	33.642	137.00	622.21	1634.11	1066.68	43.326
	68.00	299.56	678.56	405.38	33.816	138.00	626.80	1650.10	1078.49	43.442
	69.00	304.43	690.28	412.66	33.987	139.00	631.39	1666.12	1090.33	43.558
	70.00	309.29	702.04	419.99	34.156	140.00	635.98	1682.19	1102.21	43.673
	71.00	314.14	713.82	427.35	34.323	141.00	640.57	1698.28	1114.12	43.788
	72.00	318.98	725.64	434.75	34.488	142.00	645.15	1714.41	1126.07	43.902
	73.00	323.81	737.49	442.20	34.652	143.00	649.74	1730.58	1138.04	44.015
	74.00	328.63	749.39	449.70	34.814	144.00	654.33	1746.77	1150.05	44.128
	75.00	333.44	761.32	457.26	34.974	145.00	658.92	1762.99	1162.08	44.240
	76.00	338.23	773.31	464.87	35.133	146.00	663.51	1779.24	1174.14	44.352
	77.00	343.03	785.35	472.53	35.290	147.00	668.10	1795.51	1186.23	44.463
	78.00	347.81	797.43	480.26	35.446	148.00	672.69	1811.81	1198.34	44.573
	79.00	352.58	809.57	488.04	35.601	149.00	677.28	1828.13	1210.48	44.683
	80.00	357.35	821.77	495.90	35.754	150.00	681.87	1844.47	1222.64	44.793
	81.00	362.11	834.03	503.82	35.906	151.00	686.45	1860.77	1234.77	44.901
	82.00	366.86	846.36	511.80	36.058	152.00	691.03	1877.09	1246.91	45.009
	83.00	371.61	858.74	519.86	36.208	153.00	695.60	1893.43	1259.08	45.116
	84.00	376.35	871.20	527.99	36.357	154.00	700.18	1909.78	1271.25	45.222
	85.00	381.08	883.72	536.20	36.505	155.00	704.75	1926.15	1283.45	45.328
	86.00	385.81	896.31	544.48	36.652	156.00	709.33	1942.52	1295.65	45.434
	87.00	390.53	908.98	552.84	36.799	157.00	713.90	1958.91	1307.87	45.538
	88.00	395.25	921.72	561.28	36.944	158.00	718.47	1975.30	1320.09	45.642
	89.00	399.96	934.53	569.80	37.089	159.00	723.04	1991.71	1332.33	45.746
	90.00	404.67	947.42	578.40	37.233	160.00	727.61	2008.12	1344.58	45.849

* PHASE CHANGE

TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)	TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)
161.00	732.18	2024.54	1356.83	45.951	231.00	1050.93	3155.16	2196.76	51.792
162.00	736.75	2040.97	1369.09	46.053	232.00	1055.48	3170.79	2208.24	51.859
163.00	741.32	2057.40	1381.36	46.154	233.00	1060.02	3186.40	2219.71	51.926
164.00	745.89	2073.84	1393.63	46.255	234.00	1064.57	3201.99	2231.16	51.993
165.00	750.46	2090.28	1405.90	46.354	235.00	1069.11	3217.57	2242.59	52.059
166.00	755.02	2106.72	1418.18	46.454	236.00	1073.66	3233.13	2254.01	52.125
167.00	759.59	2123.17	1430.46	46.553	237.00	1078.20	3248.68	2265.41	52.191
168.00	764.15	2139.61	1442.74	46.651	238.00	1082.74	3264.21	2276.80	52.257
169.00	768.72	2156.06	1455.03	46.748	239.00	1087.29	3279.72	2288.17	52.322
170.00	773.28	2172.50	1467.31	46.845	240.00	1091.83	3295.22	2299.52	52.386
171.00	777.84	2188.95	1479.59	46.942	241.00	1096.37	3310.70	2310.86	52.451
172.00	782.40	2205.39	1491.88	47.038	242.00	1100.91	3326.16	2322.18	52.515
173.00	786.97	2221.83	1504.16	47.133	243.00	1105.45	3341.60	2333.49	52.578
174.00	791.53	2238.27	1516.43	47.228	244.00	1109.99	3357.03	2344.78	52.642
175.00	796.09	2254.70	1528.71	47.322	245.00	1114.53	3372.45	2356.06	52.705
176.00	800.65	2271.13	1540.98	47.416	246.00	1119.06	3387.85	2367.32	52.768
177.00	805.21	2287.55	1553.24	47.509	247.00	1123.60	3403.23	2378.56	52.830
178.00	809.77	2303.97	1565.50	47.601	248.00	1128.14	3418.59	2389.79	52.892
179.00	814.33	2320.38	1577.75	47.693	249.00	1132.67	3433.94	2401.01	52.954
180.00	818.88	2336.78	1590.00	47.784	250.00	1137.20	3449.28	2412.21	53.015
181.00	823.44	2353.17	1602.24	47.875	251.00	1141.74	3464.63	2423.43	53.077
182.00	828.00	2369.56	1614.47	47.966	252.00	1146.27	3479.97	2434.63	53.138
183.00	832.56	2385.94	1626.69	48.055	253.00	1150.80	3495.30	2445.83	53.198
184.00	837.11	2402.31	1638.90	48.144	254.00	1155.33	3510.61	2457.01	53.259
185.00	841.67	2418.67	1651.11	48.233	255.00	1159.86	3525.90	2468.17	53.319
186.00	846.23	2435.01	1663.30	48.321	256.00	1164.39	3541.19	2479.32	53.379
187.00	850.78	2451.35	1675.48	48.409	257.00	1168.92	3556.45	2490.46	53.438
188.00	855.34	2467.68	1687.65	48.496	258.00	1173.44	3571.71	2501.59	53.497
189.00	859.89	2483.99	1699.81	48.582	259.00	1177.97	3586.95	2512.70	53.556
190.00	864.45	2500.29	1711.96	48.668	260.00	1182.50	3602.17	2523.80	53.615
191.00	869.00	2516.58	1724.10	48.754	261.00	1187.02	3617.39	2534.88	53.673
192.00	873.56	2532.86	1736.22	48.839	262.00	1191.55	3632.59	2545.96	53.731
193.00	878.11	2549.13	1748.33	48.923	263.00	1196.07	3647.77	2557.02	53.789
194.00	882.67	2565.37	1760.43	49.007	264.00	1200.60	3662.95	2568.07	53.847
195.00	887.22	2581.61	1772.51	49.091	265.00	1205.12	3678.11	2579.11	53.904
196.00	891.77	2597.83	1784.58	49.174	266.00	1209.64	3693.27	2590.13	53.961
197.00	896.33	2614.04	1796.64	49.256	267.00	1214.17	3708.41	2601.15	54.018
198.00	900.88	2630.23	1808.68	49.338	268.00	1218.69	3723.54	2612.15	54.075
199.00	905.43	2646.41	1820.70	49.420	269.00	1223.22	3738.65	2623.14	54.131
200.00	909.98	2662.57	1832.71	49.501	270.00	1227.74	3753.76	2634.13	54.187
201.00	914.53	2678.71	1844.70	49.581	271.00	1232.26	3768.86	2645.10	54.243
202.00	919.08	2694.83	1856.67	49.661	272.00	1236.79	3783.95	2656.06	54.298
203.00	923.63	2710.94	1868.63	49.741	273.00	1241.31	3799.03	2667.01	54.354
204.00	928.18	2727.02	1880.57	49.820	274.00	1245.84	3814.10	2677.96	54.409
205.00	932.73	2743.10	1892.50	49.899	275.00	1250.37	3829.16	2688.89	54.464
206.00	937.28	2759.16	1904.41	49.977	276.00	1254.90	3844.22	2699.82	54.518
207.00	941.83	2775.20	1916.30	50.054	277.00	1259.42	3859.26	2710.73	54.573
208.00	946.37	2791.22	1928.17	50.132	278.00	1263.95	3874.30	2721.64	54.627
209.00	950.92	2807.23	1940.03	50.208	279.00	1268.49	3889.33	2732.54	54.681
210.00	955.47	2823.22	1951.88	50.285	280.00	1273.02	3904.36	2743.43	54.735
211.00	960.02	2839.19	1963.71	50.361	281.00	1277.55	3919.37	2754.31	54.788
212.00	964.56	2855.15	1975.52	50.436	282.00	1282.09	3934.38	2765.19	54.842
213.00	969.11	2871.09	1987.31	50.511	283.00	1286.62	3949.39	2776.05	54.895
214.00	973.66	2887.01	1999.09	50.586	284.00	1291.16	3964.38	2786.91	54.948
215.00	978.20	2902.92	2010.85	50.660	285.00	1295.70	3979.38	2797.76	55.000
216.00	982.75	2918.81	2022.59	50.734	286.00	1300.24	3994.36	2808.61	55.053
217.00	987.30	2934.68	2034.32	50.807	287.00	1304.79	4009.34	2819.44	55.105
218.00	991.84	2950.54	2046.03	50.880	288.00	1309.33	4024.32	2830.27	55.157
219.00	996.39	2966.38	2057.72	50.952	289.00	1313.88	4039.29	2841.10	55.209
220.00	1000.94	2982.20	2069.40	51.024	290.00	1318.42	4054.25	2851.91	55.261
221.00	1005.48	2998.01	2081.06	51.096	291.00	1322.97	4069.21	2862.72	55.312
222.00	1010.03	3013.80	2092.70	51.167	292.00	1327.52	4084.16	2873.53	55.364
223.00	1014.57	3029.57	2104.33	51.238	293.00	1332.08	4099.11	2884.32	55.415
224.00	1019.12	3045.32	2115.94	51.309	294.00	1336.63	4114.05	2895.11	55.466
225.00	1023.66	3061.06	2127.53	51.379	295.00	1341.18	4128.98	2905.89	55.516
226.00	1028.21	3076.79	2139.11	51.449	296.00	1345.74	4143.91	2916.67	55.567
227.00	1032.75	3092.49	2150.67	51.518	297.00	1350.29	4158.83	2927.43	55.617
228.00	1037.30	3108.18	2162.22	51.587	298.00	1354.85	4173.75	2938.20	55.667
229.00	1041.84	3123.85	2173.75	51.655	299.00	1359.41	4188.66	2948.95	55.717
230.00	1046.39	3139.51	2185.26	51.724	300.00	1363.96	4203.56	2959.70	55.767

10.00 ATMOSPHERE ISO8AR

	TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)	TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)
	20.00	13.83	-249.44	-263.45	7.693					
	21.00	14.05	-239.99	-254.22	8.157	91.00	368.24	958.54	585.42	36.924
	22.00	14.28	-229.97	-244.43	8.620	92.00	372.49	971.63	594.20	37.067
	23.00	14.54	-219.31	-234.04	9.096	93.00	376.73	984.79	603.07	37.209
	24.00	14.83	-207.94	-222.97	9.581	94.00	380.97	998.03	612.02	37.351
	25.00	15.16	-195.78	-211.14	10.076	95.00	385.20	1011.36	621.06	37.492
	26.00	15.53	-182.67	-198.41	10.589	96.00	389.43	1024.75	630.17	37.632
	27.00	15.97	-168.41	-184.59	11.127	97.00	393.65	1038.23	639.37	37.772
	28.00	16.49	-152.70	-169.41	11.700	98.00	397.87	1051.78	648.64	37.911
	29.00	17.15	-134.98	-152.36	12.318	99.00	402.09	1065.41	657.99	38.049
	30.00	18.04	-114.24	-132.51	13.022	100.00	406.30	1079.10	667.42	38.187
	31.00	19.44	-87.52	-107.22	13.898					
*	31.336	20.32	-75.36	-95.94	14.289	101.00	410.51	1092.87	676.91	38.324
*	31.336	70.98	166.91	94.99	22.041	102.00	414.72	1106.72	686.49	38.460
	32.00	79.19	190.56	110.31	22.788	103.00	418.93	1120.64	696.14	38.596
	33.00	88.71	216.58	126.70	23.590	104.00	423.13	1134.63	705.88	38.731
	34.00	96.73	237.70	139.69	24.220	105.00	427.34	1148.71	715.70	38.866
	35.00	103.94	256.27	150.95	24.759	106.00	431.53	1162.86	725.60	39.000
	36.00	110.64	273.26	161.16	25.238	107.00	435.73	1177.08	735.57	39.134
	37.00	116.97	289.19	170.67	25.674	108.00	439.92	1191.38	745.62	39.267
	38.00	123.04	304.36	179.69	26.079	109.00	444.10	1205.75	755.75	39.399
	39.00	128.89	318.95	188.35	26.458	110.00	448.29	1220.20	765.96	39.531
	40.00	134.57	333.09	196.74	26.816					
	41.00	140.11	346.87	204.90	27.156	111.00	452.47	1234.71	776.24	39.662
	42.00	145.54	360.36	212.90	27.481	112.00	456.64	1249.30	786.59	39.793
	43.00	150.86	373.61	220.75	27.793	113.00	460.81	1263.95	797.02	39.923
	44.00	156.09	386.64	228.48	28.092	114.00	464.98	1278.67	807.52	40.053
	45.00	161.25	399.50	236.12	28.381	115.00	469.15	1293.46	818.09	40.182
	46.00	166.33	412.20	243.67	28.661	116.00	473.31	1308.32	828.72	40.311
	47.00	171.36	424.77	251.14	28.931	117.00	477.47	1323.24	839.43	40.439
	48.00	176.32	437.22	258.56	29.193	118.00	481.62	1338.22	850.20	40.567
	49.00	181.24	449.56	265.92	29.447	119.00	485.78	1353.27	861.04	40.694
	50.00	186.11	461.82	273.24	29.695	120.00	489.93	1368.37	871.94	40.820
	51.00	190.94	473.99	280.52	29.936	121.00	494.07	1383.53	882.90	40.946
	52.00	195.73	486.09	287.76	30.171	122.00	498.22	1398.75	893.91	41.071
	53.00	200.48	498.12	294.98	30.400	123.00	502.36	1414.02	904.99	41.196
	54.00	205.21	510.10	302.18	30.624	124.00	506.50	1429.35	916.12	41.320
	55.00	209.90	522.03	309.36	30.843	125.00	510.64	1444.73	927.32	41.443
	56.00	214.56	533.92	316.52	31.057	126.00	514.77	1460.18	938.57	41.566
	57.00	219.19	545.78	323.68	31.267	127.00	518.91	1475.68	949.88	41.689
	58.00	223.81	557.60	330.83	31.473	128.00	523.05	1491.24	961.25	41.811
	59.00	228.39	569.40	337.98	31.675	129.00	527.18	1506.84	972.66	41.932
	60.00	232.96	581.18	345.14	31.872	130.00	531.31	1522.50	984.13	42.053
	61.00	237.51	592.95	352.30	32.067	131.00	535.45	1538.20	995.65	42.174
	62.00	242.03	604.71	359.47	32.258	132.00	539.58	1553.95	1007.21	42.293
	63.00	246.54	616.46	366.65	32.446	133.00	543.71	1569.75	1018.82	42.413
	64.00	251.03	628.21	373.85	32.631	134.00	547.84	1585.59	1030.47	42.531
	65.00	255.51	639.96	381.07	32.814	135.00	551.98	1601.47	1042.17	42.649
	66.00	259.97	651.73	388.32	32.993	136.00	556.11	1617.40	1053.91	42.767
	67.00	264.42	663.50	395.58	33.170	137.00	560.24	1633.36	1065.69	42.884
	68.00	268.85	675.30	402.89	33.345	138.00	564.37	1649.37	1077.50	43.000
	69.00	273.27	687.11	410.22	33.517	139.00	568.51	1665.41	1089.35	43.116
	70.00	277.68	698.95	417.59	33.688	140.00	572.64	1681.49	1101.24	43.231
	71.00	282.07	710.81	425.00	33.856	141.00	576.77	1697.60	1113.16	43.346
	72.00	286.46	722.71	432.45	34.022	142.00	580.91	1713.74	1125.12	43.460
	73.00	290.83	734.64	439.95	34.187	143.00	585.04	1729.92	1137.10	43.574
	74.00	295.20	746.60	447.49	34.350	144.00	589.18	1746.12	1149.12	43.687
	75.00	299.55	758.61	455.09	34.511	145.00	593.32	1762.36	1161.16	43.799
	76.00	303.90	770.66	462.73	34.671	146.00	597.45	1778.62	1173.23	43.911
	77.00	308.24	782.76	470.44	34.829	147.00	601.59	1794.90	1185.33	44.022
	78.00	312.57	794.91	478.20	34.985	148.00	605.72	1811.21	1197.45	44.132
	79.00	316.89	807.11	486.03	35.141	149.00	609.86	1827.55	1209.59	44.242
	80.00	321.20	819.37	493.91	35.295	150.00	614.00	1843.90	1221.75	44.352
	81.00	325.51	831.69	501.87	35.448	151.00	618.12	1860.22	1233.89	44.460
	82.00	329.81	844.07	509.89	35.600	152.00	622.24	1876.55	1246.05	44.568
	83.00	334.10	856.51	517.98	35.751	153.00	626.37	1892.90	1258.22	44.675
	84.00	338.39	869.02	526.14	35.901	154.00	630.49	1909.27	1270.41	44.782
	85.00	342.67	881.59	534.38	36.049	155.00	634.61	1925.64	1282.60	44.888
	86.00	346.95	894.23	542.69	36.197	156.00	638.73	1942.03	1294.82	44.993
	87.00	351.22	906.94	551.07	36.344	157.00	642.85	1958.43	1307.04	45.098
	88.00	355.48	919.73	559.54	36.490	158.00	646.97	1974.84	1319.27	45.202
	89.00	359.74	932.59	568.09	36.636	159.00	651.09	1991.25	1331.52	45.306
	90.00	363.99	945.53	576.71	36.780	160.00	655.21	2007.68	1343.77	45.409

* PHASE CHANGE

TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)	TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)
161.00	659.33	2024.11	1356.03	45.511	231.00	946.41	3155.23	2196.26	51.354
162.00	663.44	2040.55	1368.30	45.613	232.00	950.50	3170.86	2207.74	51.421
163.00	667.56	2056.99	1380.57	45.714	233.00	954.60	3186.48	2219.21	51.488
164.00	671.67	2073.44	1392.85	45.815	234.00	958.69	3202.07	2230.66	51.555
165.00	675.79	2089.89	1405.13	45.915	235.00	962.78	3217.65	2242.09	51.622
166.00	679.90	2106.34	1417.41	46.014	236.00	966.87	3233.21	2253.51	51.688
167.00	684.02	2122.80	1429.70	46.113	237.00	970.96	3248.76	2264.91	51.753
168.00	688.13	2139.25	1441.98	46.207	238.00	975.05	3264.29	2276.30	51.819
169.00	692.24	2155.71	1454.27	46.301	239.00	979.14	3279.81	2287.67	51.884
170.00	696.35	2172.16	1466.56	46.398	240.00	983.23	3295.31	2299.03	51.949
171.00	700.47	2188.62	1478.85	46.495	241.00	987.32	3310.79	2310.37	52.013
172.00	704.58	2205.07	1491.14	46.592	242.00	991.40	3326.26	2321.70	52.077
173.00	708.69	2221.52	1503.42	46.688	243.00	995.49	3341.71	2333.01	52.141
174.00	712.80	2237.97	1515.71	46.783	244.00	999.58	3357.15	2344.30	52.204
175.00	716.91	2254.41	1527.98	46.878	245.00	1003.66	3372.57	2355.58	52.267
176.00	721.01	2270.84	1540.26	46.972	246.00	1007.75	3387.98	2366.85	52.330
177.00	725.12	2287.28	1552.53	47.066	247.00	1011.84	3403.37	2378.10	52.392
178.00	729.23	2303.70	1564.79	47.159	248.00	1015.92	3418.75	2389.34	52.455
179.00	733.34	2320.12	1577.05	47.251	249.00	1020.01	3434.11	2400.56	52.516
180.00	737.44	2336.53	1589.30	47.343	250.00	1024.09	3449.45	2411.77	52.578
181.00	741.55	2352.94	1601.54	47.435	251.00	1028.17	3464.82	2423.00	52.639
182.00	745.65	2369.33	1613.78	47.525	252.00	1032.25	3480.17	2434.21	52.700
183.00	749.76	2385.72	1626.00	47.616	253.00	1036.34	3495.51	2445.41	52.761
184.00	753.86	2402.09	1638.22	47.705	254.00	1040.42	3510.83	2456.60	52.821
185.00	757.97	2418.46	1650.43	47.794	255.00	1044.50	3526.14	2467.78	52.882
186.00	762.07	2434.82	1662.63	47.882	256.00	1048.58	3541.44	2478.94	52.941
187.00	766.17	2451.16	1674.82	47.970	257.00	1052.66	3556.71	2490.08	53.001
188.00	770.28	2467.50	1686.99	48.057	258.00	1056.73	3571.98	2501.22	53.060
189.00	774.38	2483.82	1699.16	48.143	259.00	1060.81	3587.23	2512.34	53.119
190.00	778.48	2500.13	1711.31	48.230	260.00	1064.89	3602.47	2523.44	53.178
191.00	782.58	2516.43	1723.45	48.315	261.00	1068.97	3617.69	2534.54	53.237
192.00	786.69	2532.71	1735.58	48.400	262.00	1073.04	3632.90	2545.62	53.295
193.00	790.79	2548.98	1747.69	48.485	263.00	1077.12	3648.10	2556.68	53.353
194.00	794.89	2565.24	1759.80	48.569	264.00	1081.19	3663.28	2567.74	53.410
195.00	798.99	2581.48	1771.88	48.652	265.00	1085.26	3678.45	2578.78	53.468
196.00	803.09	2597.71	1783.96	48.735	266.00	1089.34	3693.61	2589.81	53.525
197.00	807.19	2613.92	1796.02	48.818	267.00	1093.41	3708.76	2600.83	53.581
198.00	811.29	2630.12	1808.06	48.900	268.00	1097.49	3723.89	2611.83	53.638
199.00	815.39	2646.31	1820.09	48.981	269.00	1101.56	3739.01	2622.83	53.694
200.00	819.49	2662.47	1832.11	49.062	270.00	1105.63	3754.12	2633.81	53.750
201.00	823.58	2678.62	1844.10	49.143	271.00	1109.70	3769.22	2644.78	53.806
202.00	827.68	2694.75	1856.08	49.223	272.00	1113.78	3784.31	2655.74	53.862
203.00	831.78	2710.86	1868.04	49.302	273.00	1117.85	3799.38	2666.69	53.917
204.00	835.87	2726.96	1879.98	49.382	274.00	1121.92	3814.45	2677.63	53.972
205.00	839.97	2743.03	1891.91	49.460	275.00	1126.00	3829.51	2688.56	54.027
206.00	844.07	2759.10	1903.82	49.538	276.00	1130.07	3844.55	2699.48	54.082
207.00	848.16	2775.15	1915.72	49.616	277.00	1134.14	3859.59	2710.39	54.136
208.00	852.26	2791.18	1927.60	49.693	278.00	1138.22	3874.62	2721.29	54.190
209.00	856.35	2807.19	1939.47	49.770	279.00	1142.29	3889.64	2732.18	54.244
210.00	860.45	2823.19	1951.31	49.846	280.00	1146.37	3904.66	2743.07	54.298
211.00	864.54	2839.17	1963.14	49.922	281.00	1150.45	3919.66	2753.94	54.351
212.00	868.64	2855.13	1974.96	49.998	282.00	1154.53	3934.66	2764.81	54.405
213.00	872.73	2871.08	1986.76	50.073	283.00	1158.61	3949.66	2775.67	54.458
214.00	876.83	2887.01	1998.54	50.148	284.00	1162.69	3964.64	2786.52	54.511
215.00	880.92	2902.92	2010.30	50.222	285.00	1166.77	3979.62	2797.36	54.563
216.00	885.02	2918.81	2022.05	50.295	286.00	1170.85	3994.60	2808.20	54.616
217.00	889.11	2934.69	2033.78	50.369	287.00	1174.94	4009.57	2819.03	54.668
218.00	893.20	2950.55	2045.49	50.442	288.00	1179.03	4024.54	2829.86	54.720
219.00	897.30	2966.40	2057.19	50.514	289.00	1183.12	4039.50	2840.68	54.772
220.00	901.39	2982.23	2068.87	50.586	290.00	1187.21	4054.46	2851.49	54.824
221.00	905.48	2998.04	2080.53	50.658	291.00	1191.30	4069.42	2862.30	54.875
222.00	909.58	3013.83	2092.18	50.729	292.00	1195.40	4084.37	2873.10	54.926
223.00	913.67	3029.61	2103.81	50.800	293.00	1199.49	4099.32	2883.90	54.977
224.00	917.76	3045.37	2115.42	50.871	294.00	1203.59	4114.27	2894.70	55.028
225.00	921.86	3061.12	2127.02	50.941	295.00	1207.69	4129.22	2905.49	55.079
226.00	925.95	3076.84	2138.60	51.011	296.00	1211.80	4144.16	2916.27	55.130
227.00	930.04	3092.56	2150.16	51.080	297.00	1215.90	4159.10	2927.05	55.180
228.00	934.14	3108.25	2161.71	51.149	298.00	1220.01	4174.04	2937.83	55.230
229.00	938.23	3123.93	2173.24	51.218	299.00	1224.12	4188.97	2948.60	55.280
230.00	942.32	3139.59	2184.76	51.286	300.00	1228.23	4203.91	2959.37	55.330

15.00 ATMOSPHERE ISOBAR

TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)	TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)
20.00	13.72	-244.44	-265.29	7.594					
21.00	13.92	-235.18	-256.34	8.048	91.00	244.94	949.42	577.15	35.163
22.00	14.14	-225.40	-246.89	8.501	92.00	247.82	962.72	586.06	35.308
23.00	14.37	-215.03	-236.88	8.964	93.00	250.70	976.09	595.05	35.453
24.00	14.64	-204.03	-226.28	9.434	94.00	253.58	989.53	604.12	35.597
25.00	14.93	-192.33	-215.02	9.909	95.00	256.45	1003.04	613.27	35.740
26.00	15.26	-179.82	-203.02	10.399	96.00	259.32	1016.63	622.50	35.882
27.00	15.64	-166.39	-190.16	10.905	97.00	262.18	1030.28	631.80	36.024
28.00	16.08	-151.85	-176.29	11.436	98.00	265.04	1044.01	641.18	36.164
29.00	16.59	-135.95	-161.16	11.991	99.00	267.90	1057.81	650.64	36.304
30.00	17.22	-118.32	-144.49	12.589	100.00	270.75	1071.68	660.17	36.444
31.00	18.04	-98.09	-125.51	13.252	101.00	273.61	1085.61	669.75	36.582
32.00	19.19	-73.71	-102.87	14.050	102.00	276.47	1099.61	679.40	36.720
33.00	20.73	-45.01	-76.52	14.923	103.00	279.33	1113.68	689.12	36.858
34.00	25.16	13.55	-24.70	16.668	104.00	282.19	1127.83	698.92	36.994
35.00	49.07	163.89	89.31	21.050	105.00	285.04	1142.04	708.81	37.130
36.00	57.35	198.35	111.18	22.019	106.00	287.89	1156.33	718.77	37.266
37.00	63.78	223.80	126.86	22.714	107.00	290.73	1170.69	728.81	37.401
38.00	69.36	245.60	140.18	23.296	108.00	293.57	1185.12	738.92	37.535
39.00	74.44	265.63	152.49	23.816	109.00	296.40	1199.62	749.11	37.668
40.00	79.17	284.02	163.69	24.281	110.00	299.23	1214.19	759.38	37.801
41.00	83.66	301.26	174.11	24.707	111.00	302.05	1228.82	769.73	37.934
42.00	87.95	317.64	183.97	25.102	112.00	304.87	1243.53	780.15	38.066
43.00	92.09	333.36	193.40	25.472	113.00	307.69	1258.29	790.64	38.197
44.00	96.10	348.56	202.51	25.821	114.00	310.49	1273.13	801.20	38.328
45.00	100.00	363.34	211.35	26.154	115.00	313.29	1288.02	811.84	38.458
46.00	103.82	377.76	219.97	26.470	116.00	316.09	1302.98	822.55	38.587
47.00	107.56	391.88	228.41	26.774	117.00	318.88	1318.01	833.33	38.716
48.00	111.22	405.74	236.70	27.066	118.00	321.67	1333.09	844.18	38.845
49.00	114.83	419.39	244.86	27.347	119.00	324.45	1348.23	855.09	38.973
50.00	118.38	432.84	252.91	27.619	120.00	327.23	1363.43	866.07	39.100
51.00	121.88	446.12	260.88	27.882	121.00	330.00	1378.68	877.11	39.226
52.00	125.34	459.26	268.76	28.137	122.00	332.77	1393.99	888.21	39.352
53.00	128.76	472.26	276.57	28.385	123.00	335.53	1409.35	899.37	39.478
54.00	132.14	485.16	284.32	28.626	124.00	338.30	1424.77	910.58	39.602
55.00	135.49	497.94	292.02	28.861	125.00	341.05	1440.23	921.86	39.727
56.00	138.81	510.64	299.67	29.089	126.00	343.82	1455.77	933.19	39.850
57.00	142.09	523.26	307.29	29.313	127.00	346.59	1471.35	944.57	39.974
58.00	145.35	535.80	314.88	29.531	128.00	349.36	1486.99	956.00	40.096
59.00	148.59	548.29	322.45	29.744	129.00	352.12	1502.68	967.48	40.218
60.00	151.80	560.72	330.00	29.953	130.00	354.89	1518.41	979.01	40.340
61.00	154.99	573.11	337.54	30.158	131.00	357.65	1534.19	990.59	40.461
62.00	158.17	585.46	345.07	30.359	132.00	360.42	1550.02	1002.22	40.581
63.00	161.32	597.78	352.59	30.556	133.00	363.19	1565.90	1013.88	40.701
64.00	164.45	610.07	360.13	30.750	134.00	365.95	1581.81	1025.59	40.820
65.00	167.57	622.34	367.66	30.940	135.00	368.72	1597.77	1037.34	40.939
66.00	170.67	634.61	375.20	31.127	136.00	371.49	1613.77	1049.13	41.057
67.00	173.76	646.86	382.76	31.311	137.00	374.27	1629.81	1060.95	41.174
68.00	176.84	659.11	390.34	31.493	138.00	377.04	1645.88	1072.81	41.291
69.00	179.90	671.36	397.94	31.672	139.00	379.81	1661.99	1084.71	41.408
70.00	182.95	683.62	405.57	31.848	140.00	382.59	1678.14	1096.64	41.523
71.00	185.98	695.89	413.22	32.022	141.00	385.37	1694.32	1108.59	41.639
72.00	189.01	708.18	420.91	32.194	142.00	388.15	1710.54	1120.58	41.753
73.00	192.02	720.48	428.63	32.364	143.00	390.93	1726.78	1132.60	41.867
74.00	195.03	732.82	436.40	32.532	144.00	393.71	1743.05	1144.64	41.981
75.00	198.02	745.17	444.21	32.697	145.00	396.50	1759.35	1156.71	42.093
76.00	201.01	757.57	452.06	32.862	146.00	399.29	1775.68	1168.80	42.206
77.00	203.98	769.99	459.96	33.024	147.00	402.07	1792.03	1180.92	42.317
78.00	206.95	782.46	467.92	33.185	148.00	404.86	1808.41	1193.06	42.428
79.00	209.91	794.97	475.93	33.344	149.00	407.65	1824.81	1205.22	42.539
80.00	212.87	807.53	484.00	33.502	150.00	410.44	1841.23	1217.40	42.648
81.00	215.81	820.13	492.12	33.659	151.00	413.21	1857.60	1229.57	42.757
82.00	218.75	832.79	500.31	33.814	152.00	415.97	1874.00	1241.75	42.866
83.00	221.69	845.50	508.57	33.968	153.00	418.74	1890.40	1253.95	42.973
84.00	224.61	858.27	516.89	34.121	154.00	421.51	1906.83	1266.17	43.080
85.00	227.53	871.10	525.28	34.273	155.00	424.27	1923.26	1278.40	43.186
86.00	230.45	883.99	533.74	34.424	156.00	427.04	1939.70	1290.64	43.292
87.00	233.36	896.94	542.27	34.573	157.00	429.80	1956.16	1302.90	43.397
88.00	236.26	909.96	550.87	34.722	158.00	432.56	1972.62	1315.16	43.502
89.00	239.16	923.04	559.56	34.870	159.00	435.32	1989.09	1327.44	43.606
90.00	242.05	936.20	568.31	35.017	160.00	438.08	2005.57	1339.72	43.709

TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)	TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)
161.00	440.84	2022.05	1352.01	43.812	231.00	632.89	3155.71	2193.77	49.668
162.00	443.60	2038.54	1364.31	43.914	232.00	635.63	3171.36	2205.26	49.736
163.00	446.36	2055.04	1376.61	44.015	233.00	638.36	3187.00	2216.75	49.803
164.00	449.12	2071.54	1388.92	44.116	234.00	641.09	3202.62	2228.21	49.870
165.00	451.87	2088.04	1401.23	44.217	235.00	643.83	3218.22	2239.66	49.937
166.00	454.63	2104.54	1413.55	44.316	236.00	646.56	3233.81	2251.10	50.003
167.00	457.38	2121.04	1425.86	44.415	237.00	649.29	3249.38	2262.52	50.069
168.00	460.13	2137.55	1438.18	44.514	238.00	652.02	3264.94	2273.92	50.134
169.00	462.89	2154.05	1450.50	44.612	239.00	654.75	3280.48	2285.31	50.199
170.00	465.64	2170.55	1462.83	44.709	240.00	657.49	3296.00	2296.68	50.264
171.00	468.39	2187.06	1475.14	44.806	241.00	660.22	3311.51	2308.04	50.329
172.00	471.14	2203.56	1487.46	44.902	242.00	662.95	3327.00	2319.38	50.393
173.00	473.90	2220.05	1499.77	44.998	243.00	665.68	3342.48	2330.71	50.457
174.00	476.65	2236.55	1512.08	45.093	244.00	668.41	3357.94	2342.02	50.520
175.00	479.40	2253.03	1524.39	45.187	245.00	671.14	3373.39	2353.32	50.583
176.00	482.15	2269.52	1536.69	45.281	246.00	673.87	3388.82	2364.60	50.646
177.00	484.90	2285.99	1548.99	45.375	247.00	676.60	3404.24	2375.87	50.709
178.00	487.65	2302.46	1561.28	45.468	248.00	679.32	3419.64	2387.12	50.771
179.00	490.40	2318.93	1573.56	45.560	249.00	682.05	3435.02	2398.36	50.833
180.00	493.15	2335.38	1585.84	45.651	250.00	684.78	3450.39	2409.58	50.894
181.00	495.90	2351.83	1598.11	45.743	251.00	687.51	3465.78	2420.83	50.956
182.00	498.64	2368.26	1610.37	45.833	252.00	690.23	3481.16	2432.06	51.017
183.00	501.39	2384.69	1622.62	45.923	253.00	692.96	3496.52	2443.28	51.078
184.00	504.14	2401.11	1634.86	46.013	254.00	695.69	3511.87	2454.48	51.138
185.00	506.88	2417.52	1647.10	46.102	255.00	698.41	3527.20	2465.67	51.199
186.00	509.63	2433.91	1659.32	46.190	256.00	701.14	3542.51	2476.85	51.258
187.00	512.38	2450.30	1671.53	46.278	257.00	703.86	3557.82	2488.01	51.318
188.00	515.12	2466.67	1683.73	46.365	258.00	706.58	3573.11	2499.16	51.377
189.00	517.87	2483.03	1695.92	46.452	259.00	709.31	3588.38	2510.29	51.437
190.00	520.61	2499.38	1708.10	46.538	260.00	712.03	3603.64	2521.42	51.495
191.00	523.36	2515.72	1720.26	46.624	261.00	714.75	3618.89	2532.52	51.554
192.00	526.10	2532.04	1732.41	46.709	262.00	717.48	3634.12	2543.62	51.612
193.00	528.85	2548.35	1744.55	46.794	263.00	720.20	3649.34	2554.70	51.670
194.00	531.59	2564.64	1756.67	46.878	264.00	722.92	3664.54	2565.77	51.728
195.00	534.33	2580.92	1768.78	46.962	265.00	725.64	3679.74	2576.82	51.785
196.00	537.08	2597.18	1780.87	47.045	266.00	728.36	3694.91	2587.87	51.842
197.00	539.82	2613.43	1792.95	47.128	267.00	731.08	3710.08	2598.90	51.899
198.00	542.56	2629.67	1805.02	47.210	268.00	733.80	3725.23	2609.92	51.956
199.00	545.30	2645.88	1817.07	47.292	269.00	736.52	3740.38	2620.92	52.012
200.00	548.04	2662.09	1829.10	47.373	270.00	739.24	3755.51	2631.92	52.069
201.00	550.78	2678.26	1841.12	47.453	271.00	741.97	3770.62	2642.90	52.124
202.00	553.52	2694.42	1853.11	47.534	272.00	744.69	3785.73	2653.87	52.180
203.00	556.26	2710.57	1865.09	47.613	273.00	747.41	3800.82	2664.83	52.235
204.00	559.00	2726.69	1877.06	47.693	274.00	750.13	3815.91	2675.78	52.291
205.00	561.74	2742.80	1889.00	47.771	275.00	752.85	3830.98	2686.72	52.346
206.00	564.48	2758.90	1900.93	47.850	276.00	755.57	3846.05	2697.65	52.400
207.00	567.22	2774.98	1912.85	47.928	277.00	758.29	3861.10	2708.56	52.455
208.00	569.96	2791.04	1924.75	48.005	278.00	761.01	3876.15	2719.47	52.509
209.00	572.70	2807.08	1936.63	48.082	279.00	763.74	3891.18	2730.37	52.563
210.00	575.44	2823.10	1948.49	48.158	280.00	766.46	3906.21	2741.26	52.617
211.00	578.17	2839.11	1960.34	48.234	281.00	769.18	3921.23	2752.14	52.670
212.00	580.91	2855.11	1972.17	48.310	282.00	771.91	3936.25	2763.02	52.724
213.00	583.65	2871.08	1983.98	48.385	283.00	774.63	3951.25	2773.88	52.777
214.00	586.39	2887.04	1995.78	48.460	284.00	777.35	3966.26	2784.74	52.830
215.00	589.12	2902.98	2007.56	48.534	285.00	780.08	3981.25	2795.59	52.882
216.00	591.86	2918.90	2019.32	48.608	286.00	782.81	3996.24	2806.44	52.935
217.00	594.60	2934.81	2031.07	48.682	287.00	785.53	4011.22	2817.28	52.987
218.00	597.33	2950.70	2042.80	48.755	288.00	788.26	4026.20	2828.11	53.039
219.00	600.07	2966.57	2054.51	48.827	289.00	790.99	4041.17	2838.93	53.091
220.00	602.81	2982.42	2066.21	48.900	290.00	793.72	4056.14	2849.75	53.143
221.00	605.54	2998.26	2077.89	48.971	291.00	796.45	4071.11	2860.57	53.194
222.00	608.28	3014.08	2089.55	49.043	292.00	799.19	4086.07	2871.38	53.246
223.00	611.01	3029.88	2101.19	49.114	293.00	801.92	4101.03	2882.19	53.297
224.00	613.75	3045.67	2112.82	49.184	294.00	804.65	4115.99	2892.99	53.348
225.00	616.48	3061.44	2124.44	49.255	295.00	807.39	4130.95	2903.79	53.399
226.00	619.22	3077.19	2136.03	49.325	296.00	810.12	4145.90	2914.58	53.449
227.00	621.95	3092.93	2147.61	49.394	297.00	812.86	4160.85	2925.37	53.500
228.00	624.69	3108.65	2159.17	49.463	298.00	815.60	4175.80	2936.16	53.550
229.00	627.42	3124.35	2170.72	49.532	299.00	818.33	4190.74	2946.94	53.600
230.00	630.16	3140.04	2182.25	49.600	300.00	821.07	4205.68	2957.72	53.650

20.00 ATMOSPHERE ISOBAR

TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)	TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)
20.00	13.62	-239.38	-266.97	7.501					
21.00	13.80	-230.30	-258.27	7.947	91.00	183.40	940.58	568.92	33.890
22.00	14.01	-220.71	-249.10	8.390	92.00	185.60	954.08	577.97	34.038
23.00	14.23	-210.59	-239.43	8.842	93.00	187.80	967.65	587.08	34.184
24.00	14.47	-199.89	-229.22	9.299	94.00	189.99	981.29	596.27	34.330
25.00	14.74	-188.56	-218.43	9.759	95.00	192.18	994.99	605.53	34.475
26.00	15.04	-176.53	-207.00	10.231	96.00	194.37	1008.76	614.87	34.619
27.00	15.37	-163.69	-194.84	10.714	97.00	196.55	1022.59	624.29	34.763
28.00	15.75	-149.96	-181.87	11.215	98.00	198.73	1036.50	633.78	34.905
29.00	16.18	-135.17	-167.95	11.732	99.00	200.90	1050.46	643.34	35.047
30.00	16.68	-119.17	-152.98	12.275	100.00	203.07	1064.50	652.97	35.188
31.00	17.29	-101.52	-136.56	12.853	101.00	205.24	1078.59	662.66	35.328
32.00	18.04	-81.79	-118.36	13.482	102.00	207.40	1092.74	672.42	35.468
33.00	19.02	-60.20	-98.74	14.159	103.00	209.56	1106.95	682.26	35.606
34.00	20.34	-33.29	-74.51	14.964	104.00	211.72	1121.24	692.18	35.744
35.00	22.43	1.62	-43.84	15.974	105.00	213.87	1135.59	702.17	35.882
36.00	26.67	54.16	.11	17.450	106.00	216.02	1150.02	712.23	36.019
37.00	34.40	121.04	51.34	19.281	107.00	218.17	1164.51	722.37	36.155
38.00	41.10	166.67	83.38	20.499	108.00	220.31	1179.06	732.58	36.290
39.00	46.46	199.62	105.47	21.355	109.00	222.46	1193.69	742.87	36.425
40.00	51.08	226.29	122.78	22.030	110.00	224.59	1208.38	753.22	36.559
41.00	55.24	249.43	137.48	22.602	111.00	226.73	1223.13	763.65	36.692
42.00	59.10	270.31	150.54	23.105	112.00	228.86	1237.95	774.15	36.825
43.00	62.73	289.62	162.49	23.559	113.00	230.99	1252.83	784.71	36.958
44.00	66.19	307.78	173.64	23.977	114.00	233.12	1267.78	795.34	37.089
45.00	69.51	325.06	184.20	24.365	115.00	235.25	1282.78	806.04	37.220
46.00	72.72	341.65	194.28	24.730	116.00	237.37	1297.85	816.80	37.351
47.00	75.83	357.67	204.00	25.075	117.00	239.49	1312.98	827.63	37.481
48.00	78.86	373.23	213.42	25.402	118.00	241.61	1328.16	838.52	37.610
49.00	81.82	388.40	222.58	25.715	119.00	243.73	1343.41	849.47	37.739
50.00	84.72	403.23	231.54	26.015	120.00	245.85	1358.71	860.48	37.867
51.00	87.57	417.78	240.32	26.303	121.00	247.96	1374.05	871.54	37.994
52.00	90.36	432.07	248.96	26.580	122.00	250.08	1389.45	882.66	38.121
53.00	93.11	446.15	257.46	26.848	123.00	252.19	1404.91	893.83	38.247
54.00	95.82	460.03	265.85	27.108	124.00	254.30	1420.42	905.06	38.372
55.00	98.50	473.75	274.14	27.360	125.00	256.41	1435.98	916.34	38.497
56.00	101.14	487.31	282.36	27.604	126.00	258.52	1451.60	927.70	38.622
57.00	103.75	500.75	290.50	27.842	127.00	260.62	1467.27	939.11	38.746
58.00	106.33	514.06	298.57	28.073	128.00	262.72	1482.99	950.57	38.869
59.00	108.89	527.27	306.60	28.299	129.00	264.82	1498.76	962.08	38.992
60.00	111.42	540.38	314.59	28.520	130.00	266.92	1514.57	973.64	39.114
61.00	113.94	553.42	322.54	28.735	131.00	269.02	1530.43	985.24	39.235
62.00	116.43	566.39	330.45	28.946	132.00	271.12	1546.34	996.90	39.356
63.00	118.90	579.30	338.35	29.152	133.00	273.22	1562.29	1008.59	39.477
64.00	121.35	592.14	346.23	29.355	134.00	275.32	1578.28	1020.33	39.597
65.00	123.79	604.95	354.10	29.553	135.00	277.42	1594.31	1032.11	39.716
66.00	126.21	617.72	361.97	29.748	136.00	279.52	1610.38	1043.93	39.834
67.00	128.61	630.46	369.83	29.940	137.00	281.61	1626.49	1055.79	39.952
68.00	131.00	643.18	377.70	30.128	138.00	283.71	1642.64	1067.68	40.070
69.00	133.38	655.88	385.58	30.314	139.00	285.81	1658.82	1079.61	40.187
70.00	135.75	668.56	393.48	30.496	140.00	287.91	1675.04	1091.58	40.303
71.00	138.10	681.24	401.39	30.676	141.00	290.01	1691.29	1103.57	40.419
72.00	140.44	693.93	409.32	30.853	142.00	292.10	1707.56	1115.60	40.534
73.00	142.77	706.61	417.29	31.028	143.00	294.20	1723.87	1127.66	40.648
74.00	145.09	719.31	425.28	31.201	144.00	296.30	1740.21	1139.74	40.762
75.00	147.41	732.02	433.31	31.372	145.00	298.40	1756.58	1151.86	40.875
76.00	149.71	744.76	441.37	31.541	146.00	300.50	1772.97	1163.99	40.988
77.00	152.00	757.51	449.48	31.707	147.00	302.59	1789.38	1176.15	41.100
78.00	154.29	770.30	457.64	31.872	148.00	304.69	1805.81	1188.34	41.211
79.00	156.57	783.12	465.84	32.036	149.00	306.79	1822.27	1200.55	41.322
80.00	158.84	795.97	474.09	32.197	150.00	308.89	1838.75	1212.77	41.432
81.00	161.10	808.86	482.39	32.357	151.00	310.97	1855.18	1224.98	41.541
82.00	163.36	821.80	490.75	32.516	152.00	313.06	1871.63	1237.20	41.650
83.00	165.61	834.77	499.18	32.673	153.00	315.15	1888.10	1249.43	41.758
84.00	167.85	847.80	507.66	32.829	154.00	317.23	1904.57	1261.68	41.865
85.00	170.09	860.88	516.21	32.984	155.00	319.32	1921.06	1273.94	41.972
86.00	172.32	874.02	524.82	33.138	156.00	321.40	1937.55	1286.22	42.078
87.00	174.54	887.21	533.50	33.290	157.00	323.48	1954.06	1298.50	42.184
88.00	176.77	900.46	542.25	33.442	158.00	325.57	1970.58	1310.80	42.288
89.00	178.98	913.77	551.07	33.592	159.00	327.65	1987.10	1323.10	42.393
90.00	181.19	927.15	559.96	33.742	160.00	329.73	2003.63	1335.41	42.496

TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)	TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)
161.00	331.81	2020.16	1347.73	42.599	231.00	476.33	3156.32	2191.00	48.469
162.00	333.89	2036.70	1360.06	42.702	232.00	478.39	3172.00	2202.51	48.537
163.00	335.97	2053.24	1372.39	42.804	233.00	480.44	3187.66	2214.01	48.604
164.00	338.04	2069.79	1384.72	42.905	234.00	482.50	3203.30	2225.49	48.671
165.00	340.12	2086.34	1397.06	43.005	235.00	484.55	3218.93	2236.96	48.738
166.00	342.20	2102.89	1409.40	43.105	236.00	486.61	3234.54	2248.41	48.804
167.00	344.27	2119.44	1421.75	43.205	237.00	488.66	3250.14	2259.85	48.870
168.00	346.35	2135.99	1434.09	43.304	238.00	490.71	3265.72	2271.27	48.936
169.00	348.42	2152.53	1446.43	43.402	239.00	492.76	3281.28	2282.67	49.001
170.00	350.50	2169.08	1458.78	43.499	240.00	494.82	3296.83	2294.06	49.066
171.00	352.57	2185.63	1471.12	43.596	241.00	496.87	3312.36	2305.43	49.130
172.00	354.65	2202.17	1483.47	43.693	242.00	498.92	3327.88	2316.79	49.195
173.00	356.72	2218.71	1495.81	43.789	243.00	500.97	3343.38	2328.13	49.258
174.00	358.79	2235.25	1508.14	43.884	244.00	503.02	3358.87	2339.46	49.322
175.00	360.86	2251.78	1520.48	43.979	245.00	505.07	3374.34	2350.78	49.385
176.00	362.93	2268.31	1532.81	44.073	246.00	507.12	3389.79	2362.07	49.448
177.00	365.00	2284.83	1545.13	44.167	247.00	509.17	3405.23	2373.36	49.511
178.00	367.07	2301.34	1557.45	44.260	248.00	511.22	3420.65	2384.63	49.573
179.00	369.14	2317.85	1569.76	44.352	249.00	513.27	3436.06	2395.88	49.635
180.00	371.21	2334.34	1582.06	44.444	250.00	515.32	3451.45	2407.12	49.697
181.00	373.28	2350.83	1594.36	44.535	251.00	517.37	3466.87	2418.38	49.758
182.00	375.35	2367.31	1606.64	44.626	252.00	519.42	3482.27	2429.63	49.820
183.00	377.42	2383.78	1618.92	44.716	253.00	521.47	3497.65	2440.86	49.881
184.00	379.49	2400.24	1631.19	44.806	254.00	523.52	3513.02	2452.08	49.941
185.00	381.55	2416.68	1643.45	44.895	255.00	525.57	3528.37	2463.29	50.002
186.00	383.62	2433.12	1655.69	44.984	256.00	527.61	3543.71	2474.48	50.062
187.00	385.69	2449.55	1667.93	45.072	257.00	529.66	3559.04	2485.65	50.121
188.00	387.75	2465.96	1680.15	45.159	258.00	531.71	3574.35	2496.82	50.181
189.00	389.82	2482.36	1692.37	45.246	259.00	533.75	3589.65	2507.97	50.240
190.00	391.89	2498.75	1704.57	45.333	260.00	535.80	3604.93	2519.10	50.299
191.00	393.95	2515.12	1716.75	45.419	261.00	537.85	3620.20	2530.22	50.358
192.00	396.02	2531.48	1728.93	45.504	262.00	539.89	3635.45	2541.33	50.416
193.00	398.08	2547.82	1741.09	45.589	263.00	541.94	3650.69	2552.43	50.474
194.00	400.15	2564.15	1753.23	45.674	264.00	543.98	3665.92	2563.51	50.532
195.00	402.21	2580.47	1765.36	45.757	265.00	546.03	3681.13	2574.57	50.589
196.00	404.28	2596.77	1777.48	45.841	266.00	548.07	3696.33	2585.63	50.646
197.00	406.34	2613.05	1789.58	45.924	267.00	550.12	3711.51	2596.67	50.703
198.00	408.40	2629.32	1801.67	46.006	268.00	552.16	3726.69	2607.70	50.760
199.00	410.47	2645.58	1813.74	46.088	269.00	554.21	3741.85	2618.72	50.817
200.00	412.53	2661.81	1825.80	46.169	270.00	556.25	3757.00	2629.72	50.873
201.00	414.59	2678.02	1837.83	46.250	271.00	558.30	3772.13	2640.72	50.929
202.00	416.66	2694.22	1849.84	46.331	272.00	560.34	3787.26	2651.70	50.984
203.00	418.72	2710.39	1861.84	46.410	273.00	562.38	3802.37	2662.67	51.040
204.00	420.78	2726.55	1873.83	46.490	274.00	564.43	3817.47	2673.63	51.095
205.00	422.84	2742.70	1885.79	46.569	275.00	566.47	3832.57	2684.58	51.150
206.00	424.90	2758.82	1897.74	46.647	276.00	568.52	3847.65	2695.51	51.205
207.00	426.96	2774.93	1909.68	46.725	277.00	570.56	3862.72	2706.44	51.259
208.00	429.02	2791.02	1921.59	46.803	278.00	572.61	3877.78	2717.36	51.314
209.00	431.08	2807.10	1933.49	46.880	279.00	574.65	3892.83	2728.27	51.368
210.00	433.14	2823.15	1945.37	46.957	280.00	576.70	3907.87	2739.17	51.422
211.00	435.20	2839.19	1957.24	47.033	281.00	578.74	3922.91	2750.06	51.475
212.00	437.26	2855.21	1969.09	47.109	282.00	580.79	3937.94	2760.94	51.529
213.00	439.31	2871.21	1980.92	47.184	283.00	582.84	3952.96	2771.81	51.582
214.00	441.37	2887.20	1992.73	47.259	284.00	584.88	3967.97	2782.67	51.635
215.00	443.43	2903.17	2004.53	47.333	285.00	586.93	3982.98	2793.53	51.687
216.00	445.49	2919.12	2016.31	47.407	286.00	588.98	3997.98	2804.38	51.740
217.00	447.55	2935.05	2028.07	47.481	287.00	591.02	4012.97	2815.23	51.792
218.00	449.61	2950.97	2039.82	47.554	288.00	593.07	4027.96	2826.07	51.844
219.00	451.66	2966.87	2051.55	47.627	289.00	595.12	4042.95	2836.90	51.896
220.00	453.72	2982.75	2063.26	47.699	290.00	597.17	4057.93	2847.73	51.948
221.00	455.78	2998.61	2074.96	47.771	291.00	599.22	4072.90	2858.55	52.000
222.00	457.83	3014.46	2086.64	47.843	292.00	601.27	4087.88	2869.37	52.051
223.00	459.89	3030.29	2098.30	47.914	293.00	603.32	4102.85	2880.18	52.102
224.00	461.95	3046.10	2109.94	47.984	294.00	605.37	4117.81	2890.99	52.153
225.00	464.00	3061.90	2121.57	48.055	295.00	607.43	4132.77	2901.79	52.204
226.00	466.06	3077.68	2133.18	48.125	296.00	609.48	4147.73	2912.60	52.255
227.00	468.11	3093.44	2144.78	48.194	297.00	611.53	4162.69	2923.39	52.305
228.00	470.17	3109.18	2156.36	48.264	298.00	613.58	4177.65	2934.19	52.355
229.00	472.23	3124.91	2167.92	48.332	299.00	615.64	4192.60	2944.98	52.405
230.00	474.28	3140.62	2179.47	48.401	300.00	617.69	4207.55	2955.76	52.455

25.00 ATMOSPHERE ISOBAR

TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)	TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)
20.00	13.52	-234.26	-268.51	7.413					
21.00	13.69	-225.34	-260.03	7.851	91.00	146.56	932.02	560.76	32.885
22.00	13.89	-215.94	-251.11	8.286	92.00	148.36	945.73	569.93	33.035
23.00	14.09	-206.03	-241.73	8.728	93.00	150.14	959.49	579.17	33.184
24.00	14.32	-195.59	-231.86	9.174	94.00	151.92	973.32	588.48	33.332
25.00	14.57	-184.56	-221.45	9.623	95.00	153.70	987.21	597.86	33.479
26.00	14.84	-172.90	-210.48	10.079	96.00	155.48	1001.16	607.31	33.625
27.00	15.14	-160.54	-198.88	10.545	97.00	157.25	1015.17	616.84	33.770
28.00	15.47	-147.40	-186.59	11.025	98.00	159.02	1029.24	626.44	33.914
29.00	15.85	-133.38	-173.52	11.514	99.00	160.78	1043.38	636.10	34.058
30.00	16.27	-118.43	-159.66	12.021	100.00	162.54	1057.58	645.84	34.200
31.00	16.77	-102.26	-144.73	12.552	101.00	164.30	1071.82	655.63	34.342
32.00	17.35	-84.69	-128.64	13.112	102.00	166.04	1086.11	665.49	34.483
33.00	18.10	-66.00	-111.86	13.699	103.00	167.79	1100.47	675.44	34.623
34.00	18.96	-44.41	-92.44	14.345	104.00	169.53	1114.90	685.45	34.762
35.00	20.06	-19.83	-70.66	15.056	105.00	171.26	1129.39	695.54	34.901
36.00	21.56	8.73	-45.89	15.858	106.00	173.00	1143.94	705.70	35.039
37.00	23.72	42.83	-17.25	16.790	107.00	174.73	1158.56	715.93	35.176
38.00	26.85	82.99	14.97	17.860	108.00	176.46	1173.25	726.23	35.313
39.00	30.81	124.84	46.79	18.947	109.00	178.19	1188.00	736.60	35.449
40.00	34.90	161.66	73.26	19.880	110.00	179.92	1202.81	747.04	35.584
41.00	38.72	192.73	94.65	20.647	111.00	181.64	1217.68	757.55	35.719
42.00	42.25	219.56	112.53	21.294	112.00	183.36	1232.61	768.12	35.853
43.00	45.54	243.45	128.10	21.856	113.00	185.09	1247.61	778.75	35.986
44.00	48.64	265.27	142.06	22.358	114.00	186.81	1262.66	789.45	36.119
45.00	51.58	285.55	154.88	22.814	115.00	188.53	1277.78	800.20	36.251
46.00	54.41	304.67	166.85	23.234	116.00	190.25	1292.95	811.02	36.382
47.00	57.13	322.86	178.15	23.625	117.00	191.96	1308.18	821.90	36.513
48.00	59.76	340.31	188.93	23.993	118.00	193.68	1323.47	832.84	36.643
49.00	62.32	357.16	199.30	24.340	119.00	195.40	1338.82	843.83	36.772
50.00	64.81	373.49	209.32	24.670	120.00	197.12	1354.21	854.88	36.901
51.00	67.25	389.40	219.05	24.985	121.00	198.83	1369.66	865.98	37.029
52.00	69.63	404.93	228.54	25.287	122.00	200.55	1385.15	877.12	37.157
53.00	71.97	420.14	237.82	25.576	123.00	202.27	1400.70	888.32	37.284
54.00	74.27	435.07	246.93	25.855	124.00	203.98	1416.30	899.57	37.410
55.00	76.53	449.75	255.88	26.125	125.00	205.70	1431.95	910.87	37.536
56.00	78.76	464.22	264.70	26.386	126.00	207.40	1447.65	922.27	37.661
57.00	80.96	478.49	273.41	26.638	127.00	209.10	1463.41	933.71	37.785
58.00	83.13	492.59	282.02	26.883	128.00	210.80	1479.21	945.21	37.909
59.00	85.27	506.55	290.54	27.122	129.00	212.50	1495.06	956.76	38.033
60.00	87.39	520.36	298.99	27.354	130.00	214.19	1510.95	968.35	38.155
61.00	89.49	534.06	307.37	27.581	131.00	215.89	1526.89	980.00	38.278
62.00	91.57	547.65	315.71	27.802	132.00	217.59	1542.87	991.68	38.399
63.00	93.62	561.15	324.00	28.018	133.00	219.28	1558.89	1003.42	38.520
64.00	95.66	574.56	332.25	28.229	134.00	220.97	1574.96	1015.19	38.640
65.00	97.68	587.91	340.47	28.436	135.00	222.66	1591.06	1027.01	38.760
66.00	99.69	601.19	348.67	28.639	136.00	224.35	1607.20	1038.87	38.879
67.00	101.68	614.42	356.85	28.837	137.00	226.04	1623.38	1050.76	38.998
68.00	103.66	627.60	365.02	29.033	138.00	227.73	1639.59	1062.70	39.116
69.00	105.62	640.75	373.20	29.225	139.00	229.42	1655.84	1074.67	39.233
70.00	107.57	653.86	381.37	29.413	140.00	231.11	1672.12	1086.67	39.350
71.00	109.51	666.95	389.55	29.599	141.00	232.80	1688.44	1098.71	39.466
72.00	111.44	680.03	397.74	29.782	142.00	234.49	1704.78	1110.78	39.581
73.00	113.36	693.10	405.95	29.962	143.00	236.17	1721.15	1122.88	39.696
74.00	115.27	706.16	414.18	30.140	144.00	237.86	1737.55	1135.01	39.810
75.00	117.16	719.23	422.43	30.315	145.00	239.54	1753.97	1147.16	39.924
76.00	119.05	732.30	430.71	30.488	146.00	241.23	1770.42	1159.35	40.037
77.00	120.94	745.38	439.03	30.659	147.00	242.91	1786.89	1171.55	40.150
78.00	122.81	758.48	447.39	30.828	148.00	244.60	1803.39	1183.78	40.261
79.00	124.67	771.60	455.78	30.996	149.00	246.28	1819.90	1196.03	40.373
80.00	126.53	784.74	464.22	31.161	150.00	247.96	1836.43	1208.30	40.483
81.00	128.38	797.92	472.71	31.325	151.00	249.64	1852.92	1220.54	40.593
82.00	130.23	811.12	481.24	31.487	152.00	251.32	1869.43	1232.80	40.702
83.00	132.06	824.37	489.84	31.647	153.00	252.99	1885.94	1245.07	40.810
84.00	133.90	837.65	498.48	31.806	154.00	254.67	1902.47	1257.35	40.918
85.00	135.72	850.98	507.19	31.964	155.00	256.34	1919.01	1269.65	41.025
86.00	137.54	864.36	515.95	32.121	156.00	258.02	1935.56	1281.95	41.131
87.00	139.36	877.79	524.78	32.276	157.00	259.69	1952.12	1294.27	41.237
88.00	141.17	891.26	533.67	32.430	158.00	261.37	1968.68	1306.59	41.342
89.00	142.97	904.79	542.64	32.583	159.00	263.04	1985.26	1318.93	41.447
90.00	144.77	918.38	551.66	32.734	160.00	264.71	2001.83	1331.27	41.551

TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)	TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)
161.00	266.38	2018.42	1343.62	41.654	231.00	382.39	3157.05	2188.39	47.537
162.00	268.05	2035.00	1355.97	41.757	232.00	384.03	3172.75	2199.92	47.604
163.00	269.73	2051.60	1368.33	41.859	233.00	385.68	3188.44	2211.44	47.672
164.00	271.40	2068.19	1380.69	41.960	234.00	387.33	3204.11	2222.94	47.739
165.00	273.07	2084.78	1393.05	42.061	235.00	388.97	3219.76	2234.42	47.806
166.00	274.74	2101.38	1405.42	42.161	236.00	390.62	3235.40	2245.89	47.872
167.00	276.41	2117.97	1417.78	42.261	237.00	392.26	3251.02	2257.34	47.938
168.00	278.08	2134.57	1430.15	42.360	238.00	393.91	3266.62	2268.77	48.004
169.00	279.74	2151.16	1442.52	42.459	239.00	395.56	3282.21	2280.19	48.069
170.00	281.41	2167.76	1454.88	42.557	240.00	397.20	3297.78	2291.60	48.134
171.00	283.08	2184.35	1467.25	42.654	241.00	398.84	3313.34	2302.99	48.199
172.00	284.74	2200.94	1479.62	42.751	242.00	400.49	3328.88	2314.36	48.263
173.00	286.41	2217.52	1491.99	42.847	243.00	402.13	3344.40	2325.72	48.327
174.00	288.07	2234.10	1504.35	42.942	244.00	403.78	3359.91	2337.06	48.391
175.00	289.74	2250.67	1516.71	43.037	245.00	405.42	3375.40	2348.39	48.454
176.00	291.40	2267.24	1529.07	43.132	246.00	407.06	3390.88	2359.70	48.517
177.00	293.06	2283.80	1541.41	43.226	247.00	408.71	3406.34	2371.00	48.580
178.00	294.73	2300.36	1553.76	43.319	248.00	410.35	3421.78	2382.29	48.643
179.00	296.39	2316.90	1566.09	43.411	249.00	411.99	3437.21	2393.56	48.705
180.00	298.05	2333.44	1578.42	43.504	250.00	413.63	3452.63	2404.81	48.766
181.00	299.71	2349.97	1590.74	43.595	251.00	415.28	3468.07	2416.09	48.828
182.00	301.37	2366.49	1603.05	43.686	252.00	416.92	3483.49	2427.35	48.889
183.00	303.03	2383.00	1615.35	43.777	253.00	418.56	3498.89	2438.60	48.950
184.00	304.69	2399.50	1627.65	43.867	254.00	420.20	3514.28	2449.83	49.011
185.00	306.35	2415.98	1639.93	43.956	255.00	421.84	3529.66	2461.05	49.071
186.00	308.01	2432.46	1652.20	44.045	256.00	423.48	3545.02	2472.26	49.132
187.00	309.67	2448.92	1664.46	44.133	257.00	425.12	3560.36	2483.45	49.191
188.00	311.33	2465.37	1676.71	44.221	258.00	426.76	3575.70	2494.62	49.251
189.00	312.99	2481.81	1688.95	44.308	259.00	428.40	3591.01	2505.78	49.310
190.00	314.65	2498.24	1701.17	44.395	260.00	430.04	3606.31	2516.93	49.369
191.00	316.31	2514.65	1713.38	44.481	261.00	431.68	3621.60	2528.07	49.428
192.00	317.96	2531.04	1725.58	44.566	262.00	433.32	3636.88	2539.19	49.486
193.00	319.62	2547.42	1737.76	44.651	263.00	434.96	3652.14	2550.29	49.544
194.00	321.28	2563.79	1749.93	44.736	264.00	436.60	3667.38	2561.39	49.602
195.00	322.93	2580.14	1762.09	44.820	265.00	438.24	3682.61	2572.47	49.660
196.00	324.59	2596.48	1774.23	44.904	266.00	439.88	3697.83	2583.53	49.717
197.00	326.25	2612.80	1786.35	44.987	267.00	441.52	3713.04	2594.59	49.774
198.00	327.90	2629.10	1798.46	45.069	268.00	443.16	3728.23	2605.63	49.831
199.00	329.56	2645.39	1810.55	45.151	269.00	444.79	3743.41	2616.66	49.888
200.00	331.21	2661.66	1822.63	45.233	270.00	446.43	3758.57	2627.67	49.944
201.00	332.87	2677.90	1834.68	45.314	271.00	448.07	3773.73	2638.67	50.000
202.00	334.52	2694.13	1846.72	45.394	272.00	449.71	3788.87	2649.67	50.056
203.00	336.18	2710.34	1858.74	45.474	273.00	451.35	3804.00	2660.64	50.111
204.00	337.83	2726.53	1870.74	45.554	274.00	452.99	3819.12	2671.61	50.166
205.00	339.48	2742.70	1882.73	45.633	275.00	454.63	3834.22	2682.57	50.221
206.00	341.14	2758.86	1894.70	45.712	276.00	456.26	3849.32	2693.51	50.276
207.00	342.79	2775.00	1906.65	45.790	277.00	457.90	3864.41	2704.45	50.331
208.00	344.44	2791.12	1918.59	45.868	278.00	459.54	3879.48	2715.37	50.385
209.00	346.09	2807.23	1930.51	45.945	279.00	461.18	3894.55	2726.29	50.439
210.00	347.75	2823.31	1942.41	46.022	280.00	462.82	3909.61	2737.20	50.493
211.00	349.40	2839.38	1954.29	46.098	281.00	464.46	3924.66	2748.09	50.547
212.00	351.05	2855.43	1966.16	46.174	282.00	466.10	3939.70	2758.98	50.600
213.00	352.70	2871.46	1978.01	46.249	283.00	467.74	3954.73	2769.86	50.653
214.00	354.35	2887.48	1989.84	46.324	284.00	469.38	3969.76	2780.73	50.706
215.00	356.00	2903.48	2001.66	46.399	285.00	471.02	3984.77	2791.60	50.759
216.00	357.65	2919.46	2013.45	46.473	286.00	472.66	3999.79	2802.45	50.812
217.00	359.30	2935.42	2025.23	46.547	287.00	474.30	4014.79	2813.31	50.864
218.00	360.95	2951.36	2037.00	46.620	288.00	475.94	4029.79	2824.15	50.916
219.00	362.60	2967.29	2048.74	46.693	289.00	477.58	4044.79	2834.99	50.968
220.00	364.25	2983.20	2060.47	46.765	290.00	479.22	4059.78	2845.82	51.020
221.00	365.90	2999.09	2072.19	46.838	291.00	480.86	4074.77	2856.65	51.072
222.00	367.55	3014.96	2083.88	46.909	292.00	482.50	4089.75	2867.48	51.123
223.00	369.20	3030.82	2095.56	46.980	293.00	484.14	4104.73	2878.30	51.174
224.00	370.85	3046.66	2107.22	47.051	294.00	485.79	4119.70	2889.11	51.225
225.00	372.50	3062.48	2118.87	47.122	295.00	487.43	4134.68	2899.93	51.276
226.00	374.15	3078.28	2130.50	47.192	296.00	489.07	4149.65	2910.74	51.327
227.00	375.80	3094.07	2142.11	47.262	297.00	490.71	4164.61	2921.54	51.377
228.00	377.44	3109.84	2153.70	47.331	298.00	492.36	4179.58	2932.34	51.428
229.00	379.09	3125.59	2165.28	47.400	299.00	494.00	4194.54	2943.14	51.478
230.00	380.74	3141.33	2176.85	47.468	300.00	495.64	4209.49	2953.94	51.528

30.00 ATMOSPHERE ISOBAR

TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)	TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)
20.00	13.43	-229.11	-269.92	7.329					
21.00	13.59	-220.32	-261.64	7.761	91.00	122.08	923.77	552.67	32.051
22.00	13.77	-211.08	-252.95	8.188	92.00	123.60	937.68	561.97	32.203
23.00	13.97	-201.36	-243.82	8.622	93.00	125.11	951.63	571.33	32.354
24.00	14.18	-191.14	-234.24	9.059	94.00	126.62	965.64	580.76	32.504
25.00	14.41	-180.37	-224.17	9.497	95.00	128.12	979.71	590.26	32.652
26.00	14.66	-169.02	-213.58	9.941	96.00	129.62	993.84	599.83	32.800
27.00	14.93	-157.03	-202.43	10.393	97.00	131.12	1008.02	609.46	32.947
28.00	15.24	-144.36	-190.68	10.855	98.00	132.61	1022.26	619.17	33.093
29.00	15.57	-130.93	-178.26	11.324	99.00	134.10	1036.56	628.94	33.239
30.00	15.94	-116.73	-165.20	11.806	100.00	135.58	1050.92	638.78	33.383
31.00	16.37	-101.54	-151.29	12.304	101.00	137.06	1065.32	648.67	33.526
32.00	16.85	-85.30	-136.51	12.822	102.00	138.54	1079.79	658.66	33.669
33.00	17.47	-68.29	-121.39	13.357	103.00	140.01	1094.31	668.71	33.810
34.00	18.12	-49.22	-104.30	13.928	104.00	141.47	1108.89	678.83	33.951
35.00	18.90	-28.35	-85.81	14.532	105.00	142.94	1123.54	689.03	34.091
36.00	19.86	-5.50	-65.87	15.173	106.00	144.40	1138.24	699.29	34.231
37.00	21.05	19.69	-44.31	15.860	107.00	145.86	1153.01	709.62	34.369
38.00	22.58	47.56	-21.07	16.603	108.00	147.32	1167.83	720.02	34.507
39.00	24.51	78.32	3.80	17.402	109.00	148.77	1182.72	730.48	34.645
40.00	26.87	110.43	28.74	18.215	110.00	150.22	1197.65	741.00	34.781
41.00	29.53	142.11	52.33	18.997	111.00	151.67	1212.65	751.59	34.917
42.00	32.30	171.79	73.60	19.712	112.00	153.12	1227.70	762.23	35.052
43.00	35.05	198.99	92.45	20.353	113.00	154.57	1242.81	772.94	35.186
44.00	37.71	223.91	109.28	20.926	114.00	156.02	1257.97	783.70	35.319
45.00	40.28	246.95	124.51	21.444	115.00	157.46	1273.18	794.52	35.452
46.00	42.76	268.47	138.50	21.917	116.00	158.91	1288.45	805.39	35.585
47.00	45.15	288.77	151.54	22.353	117.00	160.35	1303.77	816.32	35.716
48.00	47.46	308.08	163.81	22.760	118.00	161.80	1319.14	827.31	35.847
49.00	49.71	326.58	175.48	23.141	119.00	163.24	1334.56	838.34	35.977
50.00	51.90	344.40	186.64	23.501	120.00	164.68	1350.03	849.43	36.106
51.00	54.03	361.64	197.40	23.843	121.00	166.13	1365.54	860.55	36.235
52.00	56.12	378.40	207.81	24.168	122.00	167.57	1381.10	871.73	36.363
53.00	58.17	394.73	217.92	24.479	123.00	169.01	1396.71	882.95	36.491
54.00	60.17	410.70	227.79	24.778	124.00	170.45	1412.37	894.22	36.617
55.00	62.14	426.34	237.43	25.065	125.00	171.89	1428.07	905.54	36.744
56.00	64.08	441.70	246.90	25.341	126.00	173.32	1443.85	916.98	36.869
57.00	65.99	456.80	256.20	25.609	127.00	174.75	1459.67	928.47	36.994
58.00	67.87	471.68	265.36	25.868	128.00	176.17	1475.54	940.01	37.119
59.00	69.73	486.37	274.40	26.119	129.00	177.60	1491.46	951.59	37.243
60.00	71.57	500.88	283.33	26.363	130.00	179.02	1507.42	963.23	37.366
61.00	73.38	515.22	292.17	26.600	131.00	180.44	1523.43	974.91	37.489
62.00	75.17	529.43	300.93	26.831	132.00	181.86	1539.47	986.64	37.611
63.00	76.94	543.51	309.62	27.056	133.00	183.28	1555.56	998.41	37.732
64.00	78.70	557.48	318.26	27.276	134.00	184.70	1571.69	1010.23	37.853
65.00	80.44	571.35	326.84	27.491	135.00	186.12	1587.86	1022.08	37.973
66.00	82.16	585.14	335.39	27.702	136.00	187.54	1604.07	1033.98	38.093
67.00	83.87	598.84	343.90	27.908	137.00	188.96	1620.32	1045.92	38.212
68.00	85.57	612.48	352.38	28.110	138.00	190.37	1636.60	1057.89	38.330
69.00	87.25	626.07	360.85	28.308	139.00	191.79	1652.91	1069.90	38.448
70.00	88.92	639.60	369.30	28.503	140.00	193.21	1669.26	1081.94	38.565
71.00	90.58	653.10	377.75	28.694	141.00	194.62	1685.64	1094.02	38.682
72.00	92.23	666.56	386.20	28.883	142.00	196.04	1702.05	1106.13	38.798
73.00	93.87	680.00	394.66	29.068	143.00	197.45	1718.49	1118.27	38.913
74.00	95.50	693.42	403.13	29.250	144.00	198.86	1734.96	1130.44	39.028
75.00	97.12	706.82	411.61	29.430	145.00	200.28	1751.45	1142.64	39.142
76.00	98.73	720.23	420.12	29.608	146.00	201.69	1767.96	1154.86	39.255
77.00	100.33	733.63	428.65	29.783	147.00	203.10	1784.50	1167.10	39.368
78.00	101.93	747.04	437.20	29.956	148.00	204.52	1801.06	1179.37	39.481
79.00	103.51	760.45	445.80	30.127	149.00	205.93	1817.64	1191.66	39.592
80.00	105.09	773.88	454.42	30.296	150.00	207.34	1834.24	1203.97	39.703
81.00	106.67	787.34	463.09	30.463	151.00	208.74	1850.79	1216.24	39.813
82.00	108.23	800.81	471.80	30.628	152.00	210.15	1867.35	1228.53	39.923
83.00	109.79	814.32	480.57	30.792	153.00	211.55	1883.92	1240.84	40.031
84.00	111.35	827.85	489.38	30.954	154.00	212.96	1900.51	1253.15	40.139
85.00	112.90	841.42	498.24	31.115	155.00	214.36	1917.10	1265.48	40.247
86.00	114.44	855.03	507.16	31.274	156.00	215.76	1933.70	1277.82	40.353
87.00	115.98	868.69	516.14	31.432	157.00	217.16	1950.31	1290.17	40.460
88.00	117.51	882.38	525.18	31.588	158.00	218.57	1966.93	1302.53	40.565
89.00	119.04	896.13	534.28	31.744	159.00	219.97	1983.55	1314.89	40.670
90.00	120.56	909.93	543.44	31.898	160.00	221.37	2000.18	1327.26	40.774

TEMPER-ATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)	TEMPER-ATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)
161.00	222.77	2016.82	1339.64	40.878	231.00	319.73	3157.85	2185.92	46.773
162.00	224.17	2033.45	1352.03	40.981	232.00	321.11	3173.58	2197.47	46.841
163.00	225.57	2050.09	1364.41	41.083	233.00	322.48	3189.29	2209.00	46.909
164.00	226.96	2066.73	1376.80	41.185	234.00	323.86	3204.98	2220.51	46.976
165.00	228.36	2083.38	1389.20	41.286	235.00	325.23	3220.66	2232.01	47.043
166.00	229.76	2100.02	1401.59	41.387	236.00	326.61	3236.32	2243.49	47.109
167.00	231.16	2116.66	1413.98	41.487	237.00	327.98	3251.96	2254.96	47.175
168.00	232.55	2133.30	1426.38	41.586	238.00	329.35	3267.59	2266.41	47.241
169.00	233.95	2149.94	1438.77	41.685	239.00	330.73	3283.20	2277.85	47.307
170.00	235.35	2166.58	1451.17	41.783	240.00	332.10	3298.80	2289.27	47.372
171.00	236.74	2183.21	1463.56	41.881	241.00	333.47	3314.38	2300.68	47.437
172.00	238.13	2199.84	1475.96	41.978	242.00	334.85	3329.94	2312.07	47.501
173.00	239.53	2216.47	1488.35	42.074	243.00	336.22	3345.49	2323.44	47.565
174.00	240.92	2233.09	1500.74	42.170	244.00	337.59	3361.02	2334.80	47.629
175.00	242.31	2249.71	1513.13	42.265	245.00	338.96	3376.53	2346.14	47.692
176.00	243.70	2266.32	1525.51	42.360	246.00	340.33	3392.03	2357.47	47.755
177.00	245.09	2282.92	1537.88	42.454	247.00	341.71	3407.52	2368.79	47.818
178.00	246.48	2299.51	1550.25	42.547	248.00	343.08	3422.98	2380.09	47.881
179.00	247.87	2316.10	1562.61	42.640	249.00	344.45	3438.44	2391.37	47.943
180.00	249.26	2332.68	1574.96	42.732	250.00	345.82	3453.87	2402.64	48.005
181.00	250.65	2349.24	1587.30	42.824	251.00	347.19	3469.33	2413.93	48.067
182.00	252.04	2365.80	1599.64	42.915	252.00	348.56	3484.77	2425.21	48.128
183.00	253.43	2382.35	1611.97	43.006	253.00	349.93	3500.20	2436.47	48.189
184.00	254.82	2398.88	1624.28	43.096	254.00	351.30	3515.61	2447.72	48.250
185.00	256.21	2415.41	1636.59	43.186	255.00	352.67	3531.00	2458.95	48.310
186.00	257.59	2431.92	1648.88	43.275	256.00	354.04	3546.38	2470.17	48.370
187.00	258.98	2448.42	1661.16	43.363	257.00	355.41	3561.75	2481.37	48.430
188.00	260.37	2464.90	1673.43	43.451	258.00	356.78	3577.10	2492.56	48.490
189.00	261.75	2481.38	1685.69	43.539	259.00	358.15	3592.44	2503.73	48.549
190.00	263.14	2497.84	1697.94	43.625	260.00	359.52	3607.76	2514.89	48.608
191.00	264.53	2514.28	1710.17	43.712	261.00	360.88	3623.06	2526.04	48.667
192.00	265.91	2530.71	1722.39	43.798	262.00	362.25	3638.36	2537.17	48.726
193.00	267.30	2547.12	1734.59	43.883	263.00	363.62	3653.63	2548.29	48.784
194.00	268.68	2563.52	1746.78	43.968	264.00	364.99	3668.90	2559.39	48.842
195.00	270.07	2579.91	1758.95	44.052	265.00	366.36	3684.15	2570.48	48.899
196.00	271.45	2596.28	1771.11	44.135	266.00	367.72	3699.38	2581.56	48.957
197.00	272.83	2612.63	1783.26	44.219	267.00	369.09	3714.60	2592.63	49.014
198.00	274.22	2628.96	1795.39	44.301	268.00	370.46	3729.81	2603.68	49.071
199.00	275.60	2645.28	1807.50	44.384	269.00	371.83	3745.01	2614.71	49.127
200.00	276.98	2661.58	1819.60	44.465	270.00	373.20	3760.19	2625.74	49.184
201.00	278.37	2677.86	1831.67	44.547	271.00	374.56	3775.36	2636.75	49.240
202.00	279.75	2694.12	1843.72	44.627	272.00	375.93	3790.52	2647.75	49.296
203.00	281.13	2710.36	1855.76	44.707	273.00	377.30	3805.66	2658.74	49.351
204.00	282.51	2726.58	1867.79	44.787	274.00	378.67	3820.80	2669.71	49.406
205.00	283.89	2742.78	1879.79	44.866	275.00	380.03	3835.92	2680.68	49.462
206.00	285.28	2758.97	1891.78	44.945	276.00	381.40	3851.03	2691.63	49.516
207.00	286.66	2775.14	1903.75	45.023	277.00	382.77	3866.13	2702.58	49.571
208.00	288.04	2791.29	1915.71	45.101	278.00	384.14	3881.22	2713.51	49.625
209.00	289.42	2807.42	1927.64	45.179	279.00	385.51	3896.31	2724.43	49.680
210.00	290.80	2823.54	1939.56	45.256	280.00	386.87	3911.38	2735.34	49.734
211.00	292.18	2839.64	1951.47	45.332	281.00	388.24	3926.44	2746.25	49.787
212.00	293.56	2855.72	1963.35	45.408	282.00	389.61	3941.49	2757.14	49.841
213.00	294.94	2871.78	1975.22	45.484	283.00	390.98	3956.54	2768.03	49.894
214.00	296.32	2887.82	1987.07	45.559	284.00	392.35	3971.58	2778.91	49.947
215.00	297.70	2903.85	1998.90	45.634	285.00	393.72	3986.61	2789.78	50.000
216.00	299.07	2919.86	2010.72	45.708	286.00	395.08	4001.63	2800.64	50.052
217.00	300.45	2935.84	2022.52	45.782	287.00	396.45	4016.65	2811.50	50.105
218.00	301.83	2951.82	2034.30	45.855	288.00	397.82	4031.66	2822.35	50.157
219.00	303.21	2967.77	2046.06	45.928	289.00	399.19	4046.67	2833.20	50.209
220.00	304.59	2983.71	2057.81	46.001	290.00	400.56	4061.67	2844.04	50.261
221.00	305.97	2999.63	2069.54	46.073	291.00	401.93	4076.67	2854.88	50.313
222.00	307.34	3015.53	2081.25	46.145	292.00	403.30	4091.66	2865.71	50.364
223.00	308.72	3031.41	2092.95	46.216	293.00	404.67	4106.65	2876.54	50.415
224.00	310.10	3047.27	2104.63	46.287	294.00	406.03	4121.64	2887.36	50.466
225.00	311.47	3063.12	2116.29	46.358	295.00	407.40	4136.62	2898.18	50.517
226.00	312.85	3078.95	2127.94	46.428	296.00	408.77	4151.60	2909.00	50.568
227.00	314.23	3094.77	2139.57	46.498	297.00	410.14	4166.58	2919.82	50.618
228.00	315.60	3110.56	2151.18	46.567	298.00	411.51	4181.55	2930.63	50.669
229.00	316.98	3126.34	2162.78	46.636	299.00	412.88	4196.52	2941.44	50.719
230.00	318.36	3142.10	2174.36	46.705	300.00	414.25	4211.48	2952.25	50.769

35.00 ATMOSPHERE ISO8AR

TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)	TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)
20.00	13.34	-223.92	-271.23	7.250					
21.00	13.50	-215.26	-263.13	7.675	91.00	104.66	915.85	544.67	31.335
22.00	13.67	-206.16	-254.64	8.095	92.00	105.98	929.94	554.09	31.489
23.00	13.85	-196.61	-245.74	8.523	93.00	107.29	944.08	563.58	31.642
24.00	14.05	-186.58	-236.41	8.951	94.00	108.60	958.27	573.13	31.794
25.00	14.27	-176.03	-226.63	9.379	95.00	109.91	972.51	582.74	31.945
26.00	14.50	-164.95	-216.37	9.813	96.00	111.21	986.81	592.43	32.094
27.00	14.75	-153.28	-205.60	10.253	97.00	112.51	1001.16	602.17	32.243
28.00	15.03	-140.99	-194.29	10.702	98.00	113.80	1015.57	611.98	32.391
29.00	15.33	-128.02	-182.39	11.154	99.00	115.09	1030.02	621.86	32.537
30.00	15.66	-114.39	-169.94	11.617	100.00	116.38	1044.53	631.80	32.683
31.00	16.04	-99.91	-156.78	12.092	101.00	117.66	1059.10	641.81	32.828
32.00	16.45	-84.59	-142.93	12.581	102.00	118.94	1073.74	651.92	32.972
33.00	16.98	-68.70	-128.93	13.080	103.00	120.21	1088.44	662.10	33.116
34.00	17.52	-51.16	-113.27	13.605	104.00	121.49	1103.20	672.35	33.258
35.00	18.13	-32.32	-96.62	14.150	105.00	122.75	1118.01	682.67	33.400
36.00	18.85	-12.21	-79.05	14.715	106.00	124.02	1132.87	693.04	33.541
37.00	19.69	9.28	-60.56	15.301	107.00	125.28	1147.79	703.48	33.681
38.00	20.70	32.24	-41.17	15.913	108.00	126.54	1162.76	713.98	33.820
39.00	21.91	56.95	-20.74	16.555	109.00	127.80	1177.78	724.54	33.959
40.00	23.34	82.81	.04	17.209	110.00	129.06	1192.85	735.16	34.096
41.00	25.01	109.55	20.87	17.869	111.00	130.31	1207.97	745.82	34.233
42.00	26.88	136.54	41.21	18.520	112.00	131.56	1223.13	756.55	34.369
43.00	28.89	163.03	60.57	19.143	113.00	132.82	1238.35	767.32	34.504
44.00	30.97	188.49	78.65	19.728	114.00	134.07	1253.60	778.14	34.639
45.00	33.07	212.67	95.40	20.272	115.00	135.32	1268.91	789.01	34.773
46.00	35.15	235.58	110.93	20.776	116.00	136.57	1284.25	799.93	34.905
47.00	37.20	257.33	125.41	21.243	117.00	137.81	1299.64	810.89	35.038
48.00	39.20	278.05	139.01	21.680	118.00	139.06	1315.08	821.90	35.169
49.00	41.17	297.88	151.88	22.088	119.00	140.31	1330.56	832.96	35.300
50.00	43.09	316.94	164.14	22.474	120.00	141.56	1346.08	844.06	35.429
51.00	44.97	335.35	175.88	22.838	121.00	142.80	1361.63	855.19	35.559
52.00	46.81	353.18	187.18	23.184	122.00	144.05	1377.23	866.36	35.687
53.00	48.61	370.52	198.12	23.515	123.00	145.30	1392.87	877.58	35.815
54.00	50.39	387.43	208.74	23.831	124.00	146.54	1408.56	888.85	35.942
55.00	52.13	403.95	219.08	24.134	125.00	147.79	1424.28	900.16	36.068
56.00	53.84	420.13	229.18	24.425	126.00	149.02	1440.12	911.62	36.194
57.00	55.53	436.01	239.08	24.707	127.00	150.25	1456.00	923.14	36.320
58.00	57.19	451.62	248.79	24.978	128.00	151.48	1471.93	934.71	36.445
59.00	58.83	466.99	258.35	25.241	129.00	152.71	1487.91	946.32	36.569
60.00	60.45	482.15	267.76	25.496	130.00	153.94	1503.93	957.99	36.693
61.00	62.05	497.11	277.06	25.743	131.00	155.17	1519.99	969.70	36.816
62.00	63.63	511.90	286.25	25.984	132.00	156.39	1536.10	981.46	36.938
63.00	65.19	526.54	295.34	26.218	133.00	157.62	1552.25	993.27	37.060
64.00	66.74	541.04	304.36	26.446	134.00	158.84	1568.44	1005.12	37.181
65.00	68.27	555.42	313.31	26.669	135.00	160.06	1584.68	1017.02	37.302
66.00	69.79	569.68	322.20	26.887	136.00	161.29	1600.95	1028.95	37.422
67.00	71.29	583.85	331.03	27.100	137.00	162.51	1617.26	1040.93	37.542
68.00	72.78	597.93	339.83	27.308	138.00	163.73	1633.61	1052.94	37.661
69.00	74.26	611.94	348.60	27.513	139.00	164.95	1649.99	1065.00	37.779
70.00	75.72	625.88	357.33	27.713	140.00	166.17	1666.41	1077.09	37.897
71.00	77.18	639.76	366.06	27.910	141.00	167.39	1682.86	1089.21	38.014
72.00	78.62	653.59	374.77	28.104	142.00	168.61	1699.34	1101.37	38.130
73.00	80.06	667.39	383.47	28.294	143.00	169.83	1715.86	1113.55	38.246
74.00	81.48	681.15	392.18	28.481	144.00	171.05	1732.40	1125.77	38.361
75.00	82.90	694.89	400.89	28.666	145.00	172.27	1748.96	1138.01	38.476
76.00	84.31	708.61	409.61	28.848	146.00	173.49	1765.55	1150.29	38.590
77.00	85.71	722.32	418.35	29.027	147.00	174.71	1782.17	1162.58	38.703
78.00	87.10	736.02	427.12	29.204	148.00	175.92	1798.80	1174.90	38.816
79.00	88.49	749.72	435.91	29.378	149.00	177.14	1815.46	1187.24	38.928
80.00	89.87	763.43	444.72	29.551	150.00	178.35	1832.13	1199.60	39.040
81.00	91.24	777.15	453.57	29.721	151.00	179.57	1848.74	1211.91	39.150
82.00	92.61	790.88	462.46	29.889	152.00	180.78	1865.35	1224.24	39.260
83.00	93.97	804.64	471.39	30.056	153.00	181.99	1881.98	1236.58	39.369
84.00	95.32	818.42	480.37	30.221	154.00	183.19	1898.62	1248.93	39.477
85.00	96.67	832.23	489.39	30.385	155.00	184.40	1915.27	1261.29	39.585
86.00	98.02	846.07	498.47	30.546	156.00	185.61	1931.93	1273.67	39.692
87.00	99.36	859.94	507.59	30.707	157.00	186.82	1948.59	1286.05	39.799
88.00	100.69	873.85	516.77	30.866	158.00	188.02	1965.26	1298.44	39.904
89.00	102.02	887.81	526.01	31.024	159.00	189.23	1981.94	1310.84	40.010
90.00	103.34	901.80	535.31	31.180	160.00	190.44	1998.62	1323.24	40.114

TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)	TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)
161.00	191.64	2015.30	1335.65	40.218	231.00	275.00	3158.65	2183.39	46.126
162.00	192.85	2031.99	1348.06	40.321	232.00	276.18	3174.41	2194.95	46.194
163.00	194.05	2048.67	1360.48	40.424	233.00	277.36	3190.14	2206.50	46.261
164.00	195.25	2065.36	1372.90	40.526	234.00	278.54	3205.86	2218.03	46.329
165.00	196.46	2082.05	1385.31	40.628	235.00	279.72	3221.57	2229.55	46.396
166.00	197.66	2098.73	1397.73	40.728	236.00	280.90	3237.25	2241.05	46.462
167.00	198.86	2115.42	1410.16	40.829	237.00	282.08	3252.92	2252.53	46.528
168.00	200.07	2132.10	1422.57	40.928	238.00	283.26	3268.57	2264.00	46.594
169.00	201.27	2148.78	1434.99	41.027	239.00	284.44	3284.20	2275.45	46.660
170.00	202.47	2165.45	1447.41	41.126	240.00	285.62	3299.82	2286.89	46.725
171.00	203.67	2182.13	1459.83	41.223	241.00	286.80	3315.42	2298.31	46.790
172.00	204.87	2198.80	1472.25	41.321	242.00	287.98	3331.01	2309.71	46.855
173.00	206.06	2215.47	1484.67	41.417	243.00	289.15	3346.58	2321.10	46.919
174.00	207.26	2232.13	1497.08	41.513	244.00	290.33	3362.13	2332.48	46.983
175.00	208.46	2248.79	1509.49	41.609	245.00	291.51	3377.67	2343.83	47.046
176.00	209.66	2265.43	1521.89	41.704	246.00	292.69	3393.19	2355.18	47.109
177.00	210.85	2282.07	1534.29	41.798	247.00	293.87	3408.69	2366.51	47.172
178.00	212.05	2298.70	1546.68	41.892	248.00	295.04	3424.18	2377.82	47.235
179.00	213.24	2315.33	1559.06	41.985	249.00	296.22	3439.65	2389.12	47.297
180.00	214.44	2331.94	1571.43	42.077	250.00	297.40	3455.11	2400.40	47.359
181.00	215.63	2348.54	1583.80	42.169	251.00	298.57	3470.58	2411.70	47.421
182.00	216.83	2365.13	1596.15	42.261	252.00	299.75	3486.04	2422.99	47.482
183.00	218.02	2381.71	1608.50	42.352	253.00	300.93	3501.49	2434.26	47.543
184.00	219.22	2398.28	1620.84	42.442	254.00	302.10	3516.92	2445.52	47.604
185.00	220.41	2414.84	1633.16	42.532	255.00	303.28	3532.33	2456.77	47.665
186.00	221.60	2431.38	1645.47	42.621	256.00	304.45	3547.73	2468.00	47.725
187.00	222.80	2447.91	1657.78	42.709	257.00	305.63	3563.11	2479.21	47.785
188.00	223.99	2464.43	1670.06	42.797	258.00	306.80	3578.48	2490.41	47.845
189.00	225.18	2480.94	1682.34	42.885	259.00	307.98	3593.84	2501.60	47.904
190.00	226.37	2497.43	1694.61	42.972	260.00	309.15	3609.18	2512.77	47.963
191.00	227.56	2513.90	1706.86	43.059	261.00	310.33	3624.50	2523.92	48.022
192.00	228.75	2530.36	1719.09	43.145	262.00	311.50	3639.81	2535.07	48.081
193.00	229.95	2546.81	1731.31	43.230	263.00	312.68	3655.10	2546.20	48.139
194.00	231.14	2563.24	1743.52	43.315	264.00	313.85	3670.38	2557.31	48.197
195.00	232.33	2579.65	1755.72	43.399	265.00	315.03	3685.65	2568.41	48.255
196.00	233.52	2596.05	1767.89	43.483	266.00	316.20	3700.90	2579.50	48.312
197.00	234.71	2612.43	1780.06	43.566	267.00	317.38	3716.14	2590.57	48.369
198.00	235.90	2628.80	1792.20	43.649	268.00	318.55	3731.37	2601.63	48.426
199.00	237.08	2645.15	1804.33	43.732	269.00	319.73	3746.58	2612.68	48.483
200.00	238.27	2661.48	1816.45	43.814	270.00	320.90	3761.78	2623.72	48.539
201.00	239.46	2677.78	1828.54	43.895	271.00	322.07	3776.96	2634.74	48.595
202.00	240.65	2694.07	1840.62	43.976	272.00	323.25	3792.14	2645.75	48.651
203.00	241.84	2710.34	1852.68	44.056	273.00	324.42	3807.30	2656.75	48.707
204.00	243.02	2726.60	1864.72	44.136	274.00	325.60	3822.45	2667.73	48.762
205.00	244.21	2742.83	1876.75	44.215	275.00	326.77	3837.59	2678.71	48.817
206.00	245.40	2759.05	1888.75	44.294	276.00	327.95	3852.72	2689.67	48.872
207.00	246.58	2775.25	1900.75	44.373	277.00	329.12	3867.83	2700.62	48.927
208.00	247.77	2791.43	1912.72	44.451	278.00	330.29	3882.94	2711.56	48.982
209.00	248.96	2807.60	1924.68	44.528	279.00	331.47	3898.03	2722.49	49.036
210.00	250.14	2823.74	1936.62	44.605	280.00	332.64	3913.12	2733.42	49.090
211.00	251.33	2839.87	1948.54	44.682	281.00	333.82	3928.20	2744.33	49.143
212.00	252.51	2855.98	1960.45	44.758	282.00	334.99	3943.27	2755.23	49.197
213.00	253.70	2872.07	1972.33	44.834	283.00	336.16	3958.33	2766.13	49.250
214.00	254.88	2888.15	1984.21	44.909	284.00	337.34	3973.38	2777.02	49.303
215.00	256.07	2904.20	1996.06	44.984	285.00	338.51	3988.43	2787.90	49.356
216.00	257.25	2920.24	2007.90	45.058	286.00	339.69	4003.46	2798.77	49.409
217.00	258.44	2936.26	2019.71	45.132	287.00	340.86	4018.50	2809.64	49.461
218.00	259.62	2952.26	2031.52	45.206	288.00	342.04	4033.52	2820.50	49.514
219.00	260.81	2968.24	2043.30	45.279	289.00	343.21	4048.54	2831.35	49.566
220.00	261.99	2984.21	2055.07	45.352	290.00	344.39	4063.55	2842.20	49.618
221.00	263.17	3000.15	2066.82	45.424	291.00	345.56	4078.56	2853.05	49.669
222.00	264.36	3016.08	2078.55	45.496	292.00	346.73	4093.57	2863.89	49.721
223.00	265.54	3032.00	2090.27	45.568	293.00	347.91	4108.57	2874.72	49.772
224.00	266.72	3047.89	2101.97	45.639	294.00	349.08	4123.56	2885.55	49.823
225.00	267.91	3063.77	2113.65	45.709	295.00	350.26	4138.55	2896.38	49.874
226.00	269.09	3079.62	2125.31	45.780	296.00	351.43	4153.54	2907.21	49.925
227.00	270.27	3095.47	2136.96	45.850	297.00	352.60	4168.53	2918.03	49.975
228.00	271.45	3111.29	2148.59	45.919	298.00	353.78	4183.51	2928.85	50.026
229.00	272.63	3127.09	2160.21	45.988	299.00	354.95	4198.48	2939.66	50.076
230.00	273.82	3142.88	2171.80	46.057	300.00	356.12	4213.45	2950.48	50.126

40.00 ATMOSPHERE ISOBAR

TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)	TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)
20.00	13.26	-218.71	-272.44	7.174					
21.00	13.41	-210.16	-264.50	7.593	91.00	91.66	908.25	536.77	30.707
22.00	13.57	-201.19	-256.20	8.008	92.00	92.82	922.53	546.32	30.863
23.00	13.75	-191.79	-247.50	8.428	93.00	93.99	936.85	555.93	31.018
24.00	13.93	-181.92	-238.40	8.850	94.00	95.14	951.21	565.60	31.171
25.00	14.14	-171.58	-228.88	9.270	95.00	96.30	965.63	575.33	31.324
26.00	14.35	-160.72	-218.90	9.695	96.00	97.45	980.09	585.12	31.475
27.00	14.59	-149.32	-208.46	10.125	97.00	98.60	994.60	594.97	31.626
28.00	14.84	-137.35	-197.51	10.562	98.00	99.75	1009.16	604.89	31.775
29.00	15.12	-124.75	-186.04	11.001	99.00	100.89	1023.77	614.87	31.923
30.00	15.42	-111.58	-174.09	11.448	100.00	102.03	1038.42	624.91	32.071
31.00	15.76	-97.66	-161.52	11.905	101.00	103.16	1053.14	635.01	32.217
32.00	16.12	-83.02	-148.36	12.372	102.00	104.29	1067.91	645.21	32.362
33.00	16.59	-67.93	-135.18	12.846	103.00	105.42	1082.74	655.48	32.507
34.00	17.04	-51.44	-120.53	13.340	104.00	106.54	1097.62	665.81	32.651
35.00	17.56	-33.93	-105.09	13.846	105.00	107.66	1112.55	676.20	32.794
36.00	18.14	-15.48	-88.99	14.364	106.00	108.78	1127.54	686.65	32.936
37.00	18.80	3.92	-72.28	14.893	107.00	109.89	1142.57	697.17	33.077
38.00	19.56	24.27	-55.02	15.435	108.00	111.01	1157.66	707.74	33.217
39.00	20.44	45.79	-37.05	15.994	109.00	112.12	1172.79	718.36	33.357
40.00	21.45	67.99	-18.94	16.556	110.00	113.23	1187.96	729.05	33.495
41.00	22.60	90.92	-.69	17.122	111.00	114.33	1203.19	739.78	33.633
42.00	23.90	114.46	17.58	17.689	112.00	115.44	1218.45	750.56	33.770
43.00	25.34	138.31	35.61	18.251	113.00	116.54	1233.77	761.40	33.906
44.00	26.89	162.13	53.15	18.798	114.00	117.65	1249.12	772.28	34.041
45.00	28.51	185.57	70.01	19.325	115.00	118.75	1264.52	783.21	34.176
46.00	30.18	208.38	86.05	19.826	116.00	119.85	1279.96	794.18	34.310
47.00	31.87	230.45	101.27	20.301	117.00	120.95	1295.44	805.20	34.443
48.00	33.56	251.75	115.72	20.750	118.00	122.05	1310.96	816.27	34.575
49.00	35.24	272.29	129.45	21.173	119.00	123.15	1326.53	827.38	34.706
50.00	36.91	292.14	142.55	21.574	120.00	124.25	1342.13	838.53	34.837
51.00	38.55	311.35	155.11	21.955	121.00	125.35	1357.77	849.71	34.966
52.00	40.17	329.99	167.18	22.316	122.00	126.45	1373.45	860.94	35.095
53.00	41.76	348.11	178.85	22.662	123.00	127.55	1389.17	872.21	35.224
54.00	43.33	365.77	190.14	22.992	124.00	128.64	1404.93	883.52	35.351
55.00	44.88	383.02	201.12	23.308	125.00	129.74	1420.74	894.88	35.478
56.00	46.41	399.90	211.82	23.612	126.00	130.83	1436.65	906.39	35.605
57.00	47.91	416.45	222.27	23.905	127.00	131.91	1452.61	917.96	35.731
58.00	49.39	432.70	232.51	24.188	128.00	132.99	1468.61	929.57	35.857
59.00	50.86	448.68	242.56	24.461	129.00	134.08	1484.66	941.24	35.982
60.00	52.30	464.42	252.45	24.726	130.00	135.16	1500.76	952.95	36.106
61.00	53.73	479.94	262.18	24.982	131.00	136.24	1516.90	964.72	36.230
62.00	55.14	495.26	271.78	25.232	132.00	137.32	1533.08	976.52	36.353
63.00	56.53	510.41	281.27	25.474	133.00	138.39	1549.30	988.38	36.475
64.00	57.92	525.40	290.66	25.710	134.00	139.47	1565.56	1000.27	36.597
65.00	59.28	540.24	299.96	25.940	135.00	140.55	1581.87	1012.21	36.718
66.00	60.64	554.95	309.19	26.165	136.00	141.62	1598.21	1024.19	36.839
67.00	61.98	569.54	318.35	26.384	137.00	142.70	1614.59	1036.21	36.959
68.00	63.31	584.04	327.45	26.599	138.00	143.77	1631.00	1048.27	37.078
69.00	64.63	598.44	336.51	26.809	139.00	144.85	1647.46	1060.37	37.197
70.00	65.93	612.76	345.53	27.015	140.00	145.92	1663.94	1072.50	37.315
71.00	67.23	627.00	354.51	27.217	141.00	147.00	1680.46	1084.67	37.433
72.00	68.52	641.19	363.48	27.416	142.00	148.07	1697.01	1096.86	37.550
73.00	69.80	655.32	372.43	27.610	143.00	149.14	1713.58	1109.09	37.666
74.00	71.07	669.41	381.37	27.802	144.00	150.22	1730.19	1121.35	37.782
75.00	72.33	683.46	390.31	27.991	145.00	151.29	1746.82	1133.63	37.897
76.00	73.58	697.49	399.25	28.177	146.00	152.36	1763.47	1145.94	38.011
77.00	74.83	711.49	408.20	28.360	147.00	153.43	1780.14	1158.27	38.125
78.00	76.07	725.47	417.16	28.540	148.00	154.50	1796.84	1170.63	38.238
79.00	77.30	739.45	426.14	28.718	149.00	155.57	1813.55	1183.00	38.351
80.00	78.53	753.42	435.14	28.894	150.00	156.64	1830.28	1195.40	38.463
81.00	79.75	767.40	444.18	29.067	151.00	157.71	1846.95	1207.75	38.573
82.00	80.96	781.38	453.24	29.239	152.00	158.77	1863.62	1220.11	38.683
83.00	82.17	795.37	462.34	29.409	153.00	159.83	1880.30	1232.48	38.793
84.00	83.37	809.39	471.47	29.576	154.00	160.90	1896.99	1244.86	38.902
85.00	84.57	823.42	480.65	29.743	155.00	161.96	1913.69	1257.26	39.010
86.00	85.76	837.47	489.88	29.907	156.00	163.02	1930.40	1269.66	39.117
87.00	86.95	851.56	499.15	30.070	157.00	164.08	1947.11	1282.08	39.224
88.00	88.13	865.68	508.47	30.231	158.00	165.14	1963.83	1294.50	39.330
89.00	89.31	879.83	517.85	30.391	159.00	166.20	1980.55	1306.92	39.436
90.00	90.49	894.02	527.28	30.550	160.00	167.26	1997.28	1319.36	39.540

TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)	TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)
161.00	168.32	2014.01	1331.79	39.645	231.00	241.46	3159.61	2180.96	45.564
162.00	169.38	2030.74	1344.23	39.748	232.00	242.49	3175.38	2192.54	45.632
163.00	170.44	2047.47	1356.68	39.851	233.00	243.53	3191.14	2204.10	45.700
164.00	171.49	2064.20	1369.12	39.953	234.00	244.56	3206.89	2215.65	45.767
165.00	172.55	2080.93	1381.56	40.055	235.00	245.60	3222.61	2227.18	45.834
166.00	173.61	2097.65	1394.01	40.156	236.00	246.63	3238.32	2238.70	45.901
167.00	174.66	2114.38	1406.46	40.257	237.00	247.67	3254.01	2250.20	45.967
168.00	175.72	2131.10	1418.90	40.357	238.00	248.70	3269.68	2261.68	46.033
169.00	176.77	2147.82	1431.34	40.456	239.00	249.73	3285.34	2273.15	46.099
170.00	177.83	2164.54	1443.78	40.554	240.00	250.77	3300.98	2284.60	46.164
171.00	178.88	2181.26	1456.23	40.652	241.00	251.80	3316.61	2296.03	46.229
172.00	179.93	2197.97	1468.67	40.750	242.00	252.83	3332.21	2307.45	46.294
173.00	180.99	2214.67	1481.12	40.847	243.00	253.87	3347.80	2318.86	46.358
174.00	182.04	2231.37	1493.55	40.943	244.00	254.90	3363.38	2330.25	46.422
175.00	183.09	2248.07	1505.98	41.039	245.00	255.93	3378.94	2341.62	46.486
176.00	184.14	2264.75	1518.41	41.134	246.00	256.96	3394.48	2352.98	46.549
177.00	185.19	2281.43	1530.83	41.228	247.00	258.00	3410.00	2364.32	46.612
178.00	186.24	2298.10	1543.24	41.322	248.00	259.03	3425.51	2375.65	46.675
179.00	187.29	2314.76	1555.65	41.415	249.00	260.06	3441.01	2386.96	46.737
180.00	188.34	2331.41	1568.05	41.508	250.00	261.09	3456.48	2398.26	46.799
181.00	189.39	2348.04	1580.43	41.600	251.00	262.12	3471.98	2409.57	46.861
182.00	190.44	2364.67	1592.81	41.692	252.00	263.15	3487.46	2420.88	46.922
183.00	191.48	2381.29	1605.18	41.783	253.00	264.18	3502.93	2432.16	46.984
184.00	192.53	2397.89	1617.54	41.874	254.00	265.21	3518.38	2443.44	47.045
185.00	193.58	2414.49	1629.89	41.963	255.00	266.24	3533.81	2454.69	47.105
186.00	194.63	2431.07	1642.22	42.053	256.00	267.27	3549.23	2465.94	47.166
187.00	195.67	2447.63	1654.55	42.142	257.00	268.30	3564.63	2477.16	47.226
188.00	196.72	2464.18	1666.86	42.230	258.00	269.33	3580.02	2488.38	47.285
189.00	197.77	2480.72	1679.16	42.318	259.00	270.36	3595.39	2499.58	47.345
190.00	198.81	2497.25	1691.44	42.405	260.00	271.39	3610.75	2510.76	47.404
191.00	199.86	2513.76	1703.71	42.492	261.00	272.42	3626.09	2521.93	47.463
192.00	200.90	2530.25	1715.97	42.578	262.00	273.45	3641.42	2533.08	47.522
193.00	201.95	2546.73	1728.21	42.663	263.00	274.48	3656.73	2544.22	47.580
194.00	202.99	2563.19	1740.44	42.748	264.00	275.51	3672.03	2555.35	47.638
195.00	204.04	2579.64	1752.66	42.833	265.00	276.54	3687.32	2566.46	47.696
196.00	205.08	2596.07	1764.86	42.917	266.00	277.57	3702.59	2577.56	47.753
197.00	206.12	2612.48	1777.04	43.000	267.00	278.60	3717.84	2588.65	47.811
198.00	207.17	2628.88	1789.21	43.084	268.00	279.63	3733.08	2599.72	47.868
199.00	208.21	2645.26	1801.36	43.166	269.00	280.66	3748.31	2610.77	47.924
200.00	209.25	2661.62	1813.49	43.248	270.00	281.69	3763.53	2621.82	47.981
201.00	210.30	2677.96	1825.60	43.330	271.00	282.72	3778.73	2632.85	48.037
202.00	211.34	2694.27	1837.70	43.411	272.00	283.74	3793.92	2643.87	48.093
203.00	212.38	2710.57	1849.78	43.491	273.00	284.77	3809.09	2654.88	48.149
204.00	213.42	2726.86	1861.84	43.571	274.00	285.80	3824.26	2665.87	48.204
205.00	214.46	2743.12	1873.88	43.651	275.00	286.83	3839.41	2676.85	48.259
206.00	215.50	2759.37	1885.91	43.730	276.00	287.86	3854.55	2687.83	48.314
207.00	216.54	2775.60	1897.92	43.808	277.00	288.89	3869.68	2698.79	48.369
208.00	217.58	2791.80	1909.91	43.886	278.00	289.92	3884.80	2709.74	48.423
209.00	218.63	2808.00	1921.88	43.964	279.00	290.95	3899.91	2720.68	48.478
210.00	219.67	2824.17	1933.84	44.041	280.00	291.98	3915.01	2731.61	48.532
211.00	220.71	2840.32	1945.78	44.118	281.00	293.00	3930.10	2742.53	48.585
212.00	221.74	2856.46	1957.71	44.194	282.00	294.03	3945.18	2753.44	48.639
213.00	222.78	2872.58	1969.61	44.270	283.00	295.06	3960.26	2764.34	48.692
214.00	223.82	2888.68	1981.50	44.345	284.00	296.09	3975.32	2775.24	48.746
215.00	224.86	2904.76	1993.37	44.420	285.00	297.12	3990.38	2786.12	48.798
216.00	225.90	2920.82	2005.22	44.495	286.00	298.15	4005.43	2797.01	48.851
217.00	226.94	2936.87	2017.06	44.569	287.00	299.18	4020.47	2807.88	48.904
218.00	227.98	2952.89	2028.88	44.643	288.00	300.20	4035.51	2818.75	48.956
219.00	229.02	2968.90	2040.68	44.716	289.00	301.23	4050.54	2829.61	49.008
220.00	230.05	2984.89	2052.46	44.789	290.00	302.26	4065.56	2840.47	49.060
221.00	231.09	3000.87	2064.23	44.861	291.00	303.29	4080.58	2851.32	49.112
222.00	232.13	3016.82	2075.98	44.933	292.00	304.32	4095.60	2862.17	49.163
223.00	233.17	3032.76	2087.71	45.005	293.00	305.35	4110.61	2873.01	49.215
224.00	234.20	3048.67	2099.42	45.076	294.00	306.37	4125.62	2883.85	49.266
225.00	235.24	3064.58	2111.12	45.147	295.00	307.40	4140.62	2894.69	49.317
226.00	236.28	3080.46	2122.80	45.217	296.00	308.43	4155.62	2905.52	49.367
227.00	237.31	3096.32	2134.47	45.287	297.00	309.46	4170.61	2916.35	49.418
228.00	238.35	3112.17	2146.11	45.357	298.00	310.48	4185.60	2927.18	49.468
229.00	239.39	3128.00	2157.74	45.426	299.00	311.51	4200.59	2938.01	49.519
230.00	240.42	3143.81	2169.36	45.495	300.00	312.54	4215.58	2948.83	49.569

45.00 ATMOSPHERE ISOBAR

TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)	TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)
20.00	13.18	-213.48	-273.56	7.101					
21.00	13.32	-205.02	-265.78	7.515	91.00	81.59	901.01	528.99	30.146
22.00	13.48	-196.18	-257.64	7.924	92.00	82.64	915.46	538.66	30.304
23.00	13.65	-186.91	-249.13	8.339	93.00	83.68	929.95	548.39	30.461
24.00	13.82	-177.20	-240.23	8.754	94.00	84.72	944.48	558.17	30.616
25.00	14.02	-167.03	-230.93	9.167	95.00	85.76	959.06	568.02	30.770
26.00	14.22	-156.37	-221.21	9.584	96.00	86.80	973.68	577.92	30.923
27.00	14.44	-145.20	-211.05	10.005	97.00	87.83	988.34	587.88	31.075
28.00	14.68	-133.50	-200.42	10.432	98.00	88.86	1003.05	597.90	31.226
29.00	14.93	-121.22	-189.32	10.860	99.00	89.88	1017.80	607.98	31.376
30.00	15.21	-108.42	-177.78	11.295	100.00	90.90	1032.60	618.11	31.525
31.00	15.51	-94.95	-165.68	11.737	101.00	91.92	1047.43	628.29	31.672
32.00	15.84	-80.84	-153.08	12.188	102.00	92.93	1062.28	638.52	31.819
33.00	16.26	-66.36	-140.51	12.641	103.00	93.95	1077.19	648.82	31.964
34.00	16.66	-50.66	-126.61	13.112	104.00	94.95	1092.15	659.19	32.109
35.00	17.10	-34.09	-112.06	13.591	105.00	95.96	1107.16	669.61	32.252
36.00	17.59	-16.77	-96.99	14.077	106.00	96.96	1122.23	680.10	32.395
37.00	18.14	1.25	-81.47	14.568	107.00	97.96	1137.34	690.64	32.537
38.00	18.76	19.95	-65.58	15.066	108.00	98.96	1152.50	701.25	32.678
39.00	19.45	39.51	-49.19	15.574	109.00	99.96	1167.71	711.92	32.818
40.00	20.23	59.44	-32.81	16.079	110.00	100.96	1182.97	722.64	32.958
41.00	21.11	79.89	-16.35	16.584	111.00	101.95	1198.28	733.43	33.096
42.00	22.08	100.86	.18	17.089	112.00	102.94	1213.64	744.26	33.234
43.00	23.16	122.29	16.70	17.593	113.00	103.93	1229.05	755.16	33.371
44.00	24.33	144.03	33.10	18.093	114.00	104.92	1244.50	766.10	33.507
45.00	25.58	165.88	49.23	18.584	115.00	105.91	1260.01	777.10	33.642
46.00	26.90	187.62	64.96	19.062	116.00	106.89	1275.55	788.16	33.777
47.00	28.27	209.08	80.18	19.523	117.00	107.88	1291.15	799.26	33.911
48.00	29.67	230.13	94.86	19.967	118.00	108.86	1306.79	810.41	34.044
49.00	31.08	250.71	108.99	20.391	119.00	109.84	1322.48	821.62	34.176
50.00	32.50	270.77	122.58	20.796	120.00	110.83	1338.21	832.87	34.308
51.00	33.92	290.33	135.67	21.184	121.00	111.81	1353.98	844.16	34.439
52.00	35.33	309.40	148.30	21.554	122.00	112.79	1369.79	855.49	34.569
53.00	36.73	328.00	160.52	21.908	123.00	113.77	1385.65	866.88	34.698
54.00	38.12	346.17	172.36	22.248	124.00	114.75	1401.55	878.31	34.827
55.00	39.49	363.94	183.87	22.574	125.00	115.73	1417.49	889.78	34.955
56.00	40.85	381.35	195.08	22.888	126.00	116.70	1433.50	901.37	35.083
57.00	42.19	398.41	206.02	23.190	127.00	117.67	1449.56	913.01	35.210
58.00	43.52	415.18	216.74	23.481	128.00	118.64	1465.66	924.69	35.336
59.00	44.83	431.66	227.23	23.763	129.00	119.61	1481.80	936.43	35.462
60.00	46.13	447.89	237.54	24.036	130.00	120.57	1497.98	948.21	35.587
61.00	47.42	463.88	247.68	24.300	131.00	121.54	1514.21	960.03	35.711
62.00	48.69	479.67	257.67	24.557	132.00	122.50	1530.47	971.90	35.835
63.00	49.95	495.26	267.52	24.806	133.00	123.46	1546.77	983.81	35.958
64.00	51.19	510.67	277.27	25.049	134.00	124.43	1563.11	995.76	36.080
65.00	52.42	525.93	286.90	25.286	135.00	125.39	1579.49	1007.75	36.202
66.00	53.64	541.04	296.45	25.516	136.00	126.35	1595.90	1019.78	36.323
67.00	54.85	556.02	305.91	25.742	137.00	127.31	1612.35	1031.85	36.443
68.00	56.05	570.89	315.31	25.962	138.00	128.27	1628.83	1043.95	36.563
69.00	57.24	585.65	324.64	26.177	139.00	129.23	1645.34	1056.08	36.683
70.00	58.42	600.32	333.93	26.388	140.00	130.19	1661.89	1068.25	36.801
71.00	59.59	614.90	343.18	26.595	141.00	131.15	1678.46	1080.44	36.919
72.00	60.75	629.41	352.39	26.798	142.00	132.11	1695.06	1092.67	37.036
73.00	61.91	643.86	361.58	26.998	143.00	133.07	1711.69	1104.92	37.153
74.00	63.05	658.25	370.75	27.193	144.00	134.03	1728.34	1117.20	37.269
75.00	64.19	672.59	379.90	27.386	145.00	134.99	1745.01	1129.51	37.384
76.00	65.32	686.90	389.05	27.575	146.00	135.94	1761.71	1141.83	37.499
77.00	66.45	701.18	398.21	27.762	147.00	136.90	1778.42	1154.18	37.613
78.00	67.56	715.43	407.37	27.946	148.00	137.86	1795.16	1166.55	37.727
79.00	68.67	729.66	416.53	28.127	149.00	138.82	1811.91	1178.94	37.840
80.00	69.78	743.88	425.72	28.306	150.00	139.77	1828.68	1191.35	37.952
81.00	70.88	758.10	434.93	28.483	151.00	140.72	1845.39	1203.73	38.063
82.00	71.97	772.32	444.16	28.657	152.00	141.67	1862.11	1216.12	38.173
83.00	73.06	786.54	453.42	28.830	153.00	142.62	1878.84	1228.52	38.283
84.00	74.14	800.77	462.72	29.000	154.00	143.57	1895.58	1240.93	38.392
85.00	75.22	815.01	472.05	29.169	155.00	144.52	1912.33	1253.36	38.500
86.00	76.29	829.28	481.42	29.335	156.00	145.47	1929.08	1265.79	38.608
87.00	77.36	843.57	490.84	29.501	157.00	146.41	1945.84	1278.23	38.715
88.00	78.42	857.88	500.30	29.664	158.00	147.36	1962.60	1290.68	38.822
89.00	79.48	872.22	509.81	29.826	159.00	148.31	1979.37	1303.14	38.927
90.00	80.54	886.60	519.37	29.987	160.00	149.25	1996.14	1315.60	39.033

TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)	TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)
161.00	150.20	2012.91	1328.06	39.137	231.00	215.38	3160.75	2178.68	45.068
162.00	151.14	2029.69	1340.53	39.241	232.00	216.30	3176.54	2190.27	45.136
163.00	152.08	2046.46	1353.00	39.344	233.00	217.22	3192.32	2201.85	45.204
164.00	153.03	2063.24	1365.47	39.447	234.00	218.14	3208.09	2213.41	45.272
165.00	153.97	2080.01	1377.95	39.549	235.00	219.06	3223.83	2224.95	45.339
166.00	154.91	2096.78	1390.42	39.650	236.00	219.99	3239.56	2236.48	45.406
167.00	155.86	2113.55	1402.89	39.751	237.00	220.91	3255.27	2247.99	45.472
168.00	156.80	2130.32	1415.37	39.851	238.00	221.83	3270.97	2259.49	45.538
169.00	157.74	2147.08	1427.84	39.950	239.00	222.75	3286.64	2270.97	45.604
170.00	158.68	2163.84	1440.31	40.049	240.00	223.67	3302.31	2282.44	45.669
171.00	159.62	2180.60	1452.78	40.148	241.00	224.59	3317.95	2293.89	45.734
172.00	160.56	2197.36	1465.26	40.245	242.00	225.51	3333.58	2305.32	45.799
173.00	161.50	2214.11	1477.73	40.342	243.00	226.43	3349.19	2316.74	45.863
174.00	162.43	2230.85	1490.19	40.439	244.00	227.35	3364.79	2328.15	45.928
175.00	163.37	2247.59	1502.65	40.535	245.00	228.27	3380.37	2339.53	45.991
176.00	164.31	2264.31	1515.11	40.630	246.00	229.18	3395.93	2350.91	46.055
177.00	165.25	2281.03	1527.56	40.725	247.00	230.10	3411.48	2362.26	46.118
178.00	166.18	2297.74	1540.00	40.819	248.00	231.02	3427.01	2373.61	46.180
179.00	167.12	2314.44	1552.43	40.912	249.00	231.94	3442.52	2384.94	46.243
180.00	168.05	2331.13	1564.86	41.005	250.00	232.86	3458.02	2396.25	46.305
181.00	168.99	2347.81	1577.27	41.098	251.00	233.78	3473.54	2407.58	46.367
182.00	169.92	2364.48	1589.68	41.190	252.00	234.69	3489.04	2418.90	46.429
183.00	170.86	2381.14	1602.07	41.281	253.00	235.61	3504.53	2430.20	46.490
184.00	171.79	2397.78	1614.46	41.372	254.00	236.53	3520.00	2441.49	46.551
185.00	172.72	2414.41	1626.83	41.462	255.00	237.45	3535.46	2452.76	46.612
186.00	173.66	2431.03	1639.20	41.551	256.00	238.36	3550.90	2464.02	46.672
187.00	174.59	2447.64	1651.55	41.640	257.00	239.28	3566.32	2475.26	46.732
188.00	175.52	2464.23	1663.89	41.729	258.00	240.20	3581.73	2486.49	46.792
189.00	176.46	2480.81	1676.21	41.817	259.00	241.12	3597.12	2497.70	46.852
190.00	177.39	2497.37	1688.52	41.904	260.00	242.03	3612.50	2508.90	46.911
191.00	178.32	2513.91	1700.82	41.991	261.00	242.95	3627.86	2520.08	46.970
192.00	179.25	2530.44	1713.10	42.077	262.00	243.86	3643.21	2531.25	47.029
193.00	180.18	2546.96	1725.37	42.163	263.00	244.78	3658.54	2542.40	47.087
194.00	181.11	2563.46	1737.62	42.248	264.00	245.70	3673.86	2553.54	47.145
195.00	182.04	2579.94	1749.86	42.333	265.00	246.61	3689.16	2564.66	47.203
196.00	182.97	2596.40	1762.08	42.417	266.00	247.53	3704.45	2575.77	47.261
197.00	183.91	2612.85	1774.29	42.501	267.00	248.45	3719.72	2586.87	47.318
198.00	184.84	2629.28	1786.48	42.584	268.00	249.36	3734.98	2597.95	47.375
199.00	185.76	2645.69	1798.65	42.667	269.00	250.28	3750.22	2609.02	47.432
200.00	186.69	2662.09	1810.81	42.749	270.00	251.19	3765.45	2620.07	47.488
201.00	187.62	2678.45	1822.94	42.831	271.00	252.11	3780.67	2631.11	47.544
202.00	188.55	2694.80	1835.05	42.912	272.00	253.03	3795.87	2642.14	47.600
203.00	189.48	2711.12	1847.14	42.993	273.00	253.94	3811.06	2653.16	47.656
204.00	190.41	2727.43	1859.22	43.073	274.00	254.86	3826.24	2664.16	47.712
205.00	191.34	2743.72	1871.28	43.152	275.00	255.77	3841.41	2675.15	47.767
206.00	192.26	2759.99	1883.32	43.232	276.00	256.69	3856.56	2686.13	47.822
207.00	193.19	2776.25	1895.35	43.310	277.00	257.60	3871.70	2697.10	47.877
208.00	194.12	2792.48	1907.36	43.388	278.00	258.52	3886.84	2708.05	47.931
209.00	195.04	2808.69	1919.34	43.466	279.00	259.43	3901.96	2719.00	47.985
210.00	195.97	2824.89	1931.32	43.544	280.00	260.35	3917.07	2729.93	48.040
211.00	196.90	2841.07	1943.27	43.620	281.00	261.27	3932.17	2740.86	48.093
212.00	197.82	2857.23	1955.20	43.697	282.00	262.18	3947.26	2751.78	48.147
213.00	198.75	2873.37	1967.12	43.773	283.00	263.10	3962.34	2762.69	48.200
214.00	199.67	2889.49	1979.02	43.848	284.00	264.01	3977.42	2773.59	48.254
215.00	200.60	2905.59	1990.91	43.923	285.00	264.93	3992.48	2784.48	48.307
216.00	201.52	2921.67	2002.77	43.998	286.00	265.84	4007.54	2795.37	48.359
217.00	202.45	2937.74	2014.62	44.072	287.00	266.76	4022.60	2806.25	48.412
218.00	203.37	2953.78	2026.45	44.146	288.00	267.67	4037.64	2817.12	48.464
219.00	204.30	2969.81	2038.26	44.219	289.00	268.59	4052.68	2827.99	48.516
220.00	205.22	2985.82	2050.06	44.292	290.00	269.50	4067.72	2838.85	48.568
221.00	206.15	3001.81	2061.83	44.365	291.00	270.42	4082.75	2849.71	48.620
222.00	207.07	3017.79	2073.59	44.437	292.00	271.33	4097.78	2860.57	48.672
223.00	208.00	3033.74	2085.34	44.509	293.00	272.25	4112.80	2871.42	48.723
224.00	208.92	3049.68	2097.06	44.580	294.00	273.16	4127.82	2882.27	48.774
225.00	209.84	3065.60	2108.77	44.651	295.00	274.08	4142.83	2893.12	48.825
226.00	210.77	3081.50	2120.46	44.721	296.00	274.99	4157.85	2903.96	48.876
227.00	211.69	3097.39	2132.14	44.791	297.00	275.90	4172.85	2914.81	48.926
228.00	212.61	3113.25	2143.80	44.861	298.00	276.82	4187.86	2925.65	48.977
229.00	213.53	3129.10	2155.44	44.931	299.00	277.73	4202.86	2936.49	49.027
230.00	214.46	3144.93	2167.07	45.000	300.00	278.64	4217.86	2947.32	49.077

50.00 ATMOSPHERE ISO8AR

TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)	TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)
20.00	13.10	-208.22	-274.60	7.031					
21.00	13.24	-199.87	-266.96	7.441	91.00	73.58	894.12	521.33	29.639
22.00	13.39	-191.13	-258.97	7.844	92.00	74.54	908.74	531.13	29.799
23.00	13.55	-181.98	-250.63	8.253	93.00	75.48	923.39	540.97	29.957
24.00	13.72	-172.41	-241.92	8.662	94.00	76.43	938.08	550.87	30.115
25.00	13.90	-162.40	-232.83	9.069	95.00	77.37	952.81	560.82	30.270
26.00	14.10	-151.92	-223.33	9.479	96.00	78.31	967.58	570.83	30.425
27.00	14.30	-140.95	-213.42	9.893	97.00	79.25	982.39	580.90	30.578
28.00	14.53	-129.48	-203.07	10.312	98.00	80.18	997.24	591.02	30.731
29.00	14.76	-117.47	-192.28	10.730	99.00	81.11	1012.13	601.20	30.882
30.00	15.02	-104.98	-181.09	11.154	100.00	82.04	1027.06	611.43	31.032
31.00	15.30	-91.88	-169.39	11.584	101.00	82.96	1042.03	621.70	31.181
32.00	15.60	-78.21	-157.25	12.021	102.00	83.89	1057.04	632.04	31.329
33.00	15.98	-64.21	-145.16	12.459	103.00	84.80	1072.09	642.44	31.476
34.00	16.33	-49.12	-131.86	12.911	104.00	85.72	1087.19	652.90	31.622
35.00	16.72	-33.26	-117.98	13.370	105.00	86.63	1102.34	663.43	31.767
36.00	17.15	-16.80	-103.68	13.832	106.00	87.54	1117.54	674.01	31.911
37.00	17.62	.25	-89.03	14.296	107.00	88.45	1132.79	684.65	32.054
38.00	18.14	17.79	-74.14	14.763	108.00	89.36	1148.08	695.35	32.196
39.00	18.72	36.00	-58.84	15.237	109.00	90.26	1163.42	706.11	32.337
40.00	19.36	54.41	-43.67	15.703	110.00	91.17	1178.81	716.92	32.478
41.00	20.06	73.16	-28.49	16.165	111.00	92.07	1194.24	727.79	32.618
42.00	20.84	92.31	-13.27	16.627	112.00	92.97	1209.71	738.71	32.756
43.00	21.69	111.89	2.00	17.088	113.00	93.86	1225.23	749.68	32.894
44.00	22.61	131.85	17.28	17.547	114.00	94.76	1240.79	760.70	33.031
45.00	23.61	152.09	32.49	18.001	115.00	95.65	1256.40	771.77	33.168
46.00	24.66	172.49	47.54	18.450	116.00	96.55	1272.04	782.89	33.303
47.00	25.77	192.90	62.34	18.889	117.00	97.44	1287.73	794.06	33.438
48.00	26.92	213.21	76.82	19.316	118.00	98.33	1303.46	805.27	33.572
49.00	28.10	233.31	90.93	19.731	119.00	99.22	1319.23	816.53	33.705
50.00	29.31	253.12	104.65	20.131	120.00	100.11	1335.04	827.84	33.837
51.00	30.52	272.60	117.97	20.517	121.00	101.00	1350.88	839.18	33.969
52.00	31.75	291.73	130.90	20.888	122.00	101.89	1366.76	850.56	34.099
53.00	32.97	310.50	143.47	21.246	123.00	102.77	1382.68	861.99	34.229
54.00	34.19	328.91	155.69	21.590	124.00	103.66	1398.64	873.46	34.358
55.00	35.41	346.97	167.59	21.921	125.00	104.55	1414.64	884.97	34.487
56.00	36.62	364.70	179.20	22.241	126.00	105.42	1430.72	896.61	34.615
57.00	37.82	382.12	190.54	22.549	127.00	106.30	1446.85	908.29	34.743
58.00	39.01	399.25	201.63	22.847	128.00	107.18	1463.01	920.02	34.869
59.00	40.19	416.11	212.51	23.135	129.00	108.05	1479.22	931.79	34.996
60.00	41.36	432.71	223.18	23.414	130.00	108.92	1495.46	943.61	35.121
61.00	42.52	449.09	233.68	23.685	131.00	109.80	1511.75	955.48	35.246
62.00	43.67	465.24	244.02	23.948	132.00	110.67	1528.07	967.38	35.370
63.00	44.81	481.20	254.20	24.203	133.00	111.54	1544.43	979.32	35.493
64.00	45.93	496.98	264.27	24.452	134.00	112.41	1560.83	991.31	35.616
65.00	47.05	512.59	274.21	24.694	135.00	113.28	1577.26	1003.33	35.738
66.00	48.16	528.05	284.05	24.930	136.00	114.15	1593.72	1015.39	35.860
67.00	49.26	543.36	293.80	25.160	137.00	115.02	1610.22	1027.48	35.981
68.00	50.35	558.56	303.47	25.385	138.00	115.89	1626.75	1039.61	36.101
69.00	51.43	573.64	313.07	25.605	139.00	116.76	1643.31	1051.77	36.220
70.00	52.51	588.62	322.61	25.821	140.00	117.63	1659.90	1063.96	36.339
71.00	53.57	603.50	332.10	26.032	141.00	118.49	1676.52	1076.19	36.458
72.00	54.63	618.31	341.54	26.239	142.00	119.36	1693.17	1088.44	36.575
73.00	55.68	633.04	350.96	26.442	143.00	120.23	1709.84	1100.72	36.692
74.00	56.72	647.71	360.35	26.642	144.00	121.10	1726.54	1113.02	36.809
75.00	57.76	662.32	369.71	26.838	145.00	121.96	1743.26	1125.35	36.924
76.00	58.79	676.89	379.07	27.031	146.00	122.83	1760.00	1137.70	37.039
77.00	59.81	691.42	388.41	27.221	147.00	123.70	1776.76	1150.07	37.154
78.00	60.83	705.91	397.76	27.408	148.00	124.56	1793.54	1162.47	37.268
79.00	61.84	720.38	407.11	27.592	149.00	125.43	1810.34	1174.88	37.381
80.00	62.84	734.84	416.47	27.774	150.00	126.29	1827.15	1187.31	37.493
81.00	63.84	749.28	425.85	27.953	151.00	127.15	1843.91	1199.71	37.605
82.00	64.84	763.71	435.24	28.130	152.00	128.01	1860.67	1212.13	37.715
83.00	65.82	778.15	444.66	28.305	153.00	128.87	1877.45	1224.56	37.825
84.00	66.81	792.59	454.11	28.478	154.00	129.72	1894.23	1237.00	37.935
85.00	67.79	807.04	463.60	28.649	155.00	130.58	1911.03	1249.45	38.043
86.00	68.77	821.49	473.11	28.818	156.00	131.44	1927.83	1261.91	38.151
87.00	69.74	835.97	482.67	28.986	157.00	132.29	1944.63	1274.38	38.259
88.00	70.70	850.47	492.26	29.151	158.00	133.15	1961.44	1286.86	38.365
89.00	71.67	864.99	501.91	29.316	159.00	134.00	1978.26	1299.35	38.472
90.00	72.63	879.54	511.60	29.478	160.00	134.86	1995.08	1311.84	38.577

TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)	TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)
161.00	135.71	2011.90	1324.34	38.682	231.00	194.52	3161.99	2176.47	44.625
162.00	136.56	2028.73	1336.84	38.786	232.00	195.35	3177.79	2188.06	44.694
163.00	137.42	2045.55	1349.35	38.890	233.00	196.18	3193.58	2199.64	44.762
164.00	138.27	2062.38	1361.86	38.992	234.00	197.01	3209.36	2211.21	44.829
165.00	139.12	2079.20	1374.37	39.095	235.00	197.84	3225.12	2222.76	44.896
166.00	139.97	2096.03	1386.88	39.196	236.00	198.67	3240.86	2234.30	44.963
167.00	140.82	2112.85	1399.40	39.297	237.00	199.50	3256.59	2245.82	45.030
168.00	141.67	2129.67	1411.91	39.398	238.00	200.33	3272.30	2257.33	45.096
169.00	142.52	2146.49	1424.42	39.498	239.00	201.16	3288.00	2268.82	45.162
170.00	143.37	2163.31	1436.93	39.597	240.00	201.99	3303.68	2280.30	45.227
171.00	144.22	2180.13	1449.45	39.696	241.00	202.82	3319.35	2291.77	45.292
172.00	145.07	2196.94	1461.97	39.794	242.00	203.65	3335.00	2303.22	45.357
173.00	145.91	2213.75	1474.49	39.891	243.00	204.48	3350.64	2314.66	45.422
174.00	146.76	2230.55	1487.00	39.988	244.00	205.31	3366.26	2326.08	45.486
175.00	147.61	2247.35	1499.51	40.084	245.00	206.14	3381.86	2337.49	45.550
176.00	148.45	2264.13	1512.01	40.180	246.00	206.97	3397.45	2348.88	45.613
177.00	149.30	2280.91	1524.50	40.275	247.00	207.80	3413.03	2360.26	45.676
178.00	150.14	2297.68	1536.99	40.369	248.00	208.62	3428.59	2371.62	45.739
179.00	150.99	2314.44	1549.47	40.463	249.00	209.45	3444.13	2382.97	45.802
180.00	151.83	2331.19	1561.95	40.556	250.00	210.28	3459.66	2394.31	45.864
181.00	152.68	2347.93	1574.41	40.649	251.00	211.11	3475.21	2405.66	45.926
182.00	153.52	2364.66	1586.87	40.741	252.00	211.93	3490.74	2417.00	45.988
183.00	154.36	2381.38	1599.31	40.833	253.00	212.76	3506.26	2428.33	46.049
184.00	155.21	2398.08	1611.74	40.924	254.00	213.59	3521.76	2439.64	46.110
185.00	156.05	2414.77	1624.16	41.014	255.00	214.41	3537.24	2450.94	46.171
186.00	156.89	2431.44	1636.57	41.104	256.00	215.24	3552.71	2462.22	46.232
187.00	157.73	2448.10	1648.96	41.194	257.00	216.07	3568.16	2473.48	46.292
188.00	158.58	2464.75	1661.34	41.282	258.00	216.89	3583.60	2484.73	46.352
189.00	159.42	2481.38	1673.71	41.371	259.00	217.72	3599.02	2495.96	46.411
190.00	160.26	2497.99	1686.06	41.458	260.00	218.55	3614.42	2507.18	46.471
191.00	161.10	2514.58	1698.40	41.545	261.00	219.37	3629.81	2518.38	46.530
192.00	161.94	2531.16	1710.72	41.632	262.00	220.20	3645.18	2529.57	46.589
193.00	162.78	2547.72	1723.02	41.718	263.00	221.02	3660.53	2540.74	46.647
194.00	163.62	2564.27	1735.31	41.804	264.00	221.85	3675.87	2551.89	46.705
195.00	164.46	2580.79	1747.57	41.889	265.00	222.68	3691.19	2563.03	46.763
196.00	165.30	2597.30	1759.83	41.973	266.00	223.50	3706.50	2574.15	46.821
197.00	166.14	2613.78	1772.06	42.057	267.00	224.33	3721.79	2585.26	46.878
198.00	166.98	2630.25	1784.28	42.140	268.00	225.15	3737.06	2596.35	46.935
199.00	167.82	2646.69	1796.47	42.223	269.00	225.98	3752.32	2607.43	46.992
200.00	168.65	2663.12	1808.65	42.305	270.00	226.80	3767.56	2618.49	47.049
201.00	169.49	2679.51	1820.79	42.387	271.00	227.63	3782.79	2629.53	47.105
202.00	170.33	2695.87	1832.92	42.468	272.00	228.45	3798.00	2640.57	47.161
203.00	171.17	2712.22	1845.02	42.549	273.00	229.28	3813.20	2651.58	47.217
204.00	172.00	2728.54	1857.10	42.629	274.00	230.10	3828.38	2662.59	47.272
205.00	172.84	2744.85	1869.17	42.709	275.00	230.93	3843.55	2673.57	47.328
206.00	173.68	2761.13	1881.21	42.788	276.00	231.75	3858.71	2684.55	47.383
207.00	174.51	2777.39	1893.24	42.867	277.00	232.58	3873.85	2695.52	47.437
208.00	175.35	2793.64	1905.25	42.945	278.00	233.40	3888.98	2706.47	47.492
209.00	176.19	2809.86	1917.24	43.023	279.00	234.23	3904.10	2717.41	47.546
210.00	177.02	2826.06	1929.20	43.100	280.00	235.05	3919.21	2728.34	47.600
211.00	177.86	2842.24	1941.15	43.177	281.00	235.88	3934.31	2739.26	47.654
212.00	178.69	2858.41	1953.09	43.254	282.00	236.70	3949.40	2750.17	47.708
213.00	179.53	2874.55	1965.00	43.330	283.00	237.53	3964.48	2761.07	47.761
214.00	180.36	2890.67	1976.89	43.405	284.00	238.35	3979.56	2771.97	47.814
215.00	181.20	2906.78	1988.77	43.480	285.00	239.18	3994.62	2782.86	47.867
216.00	182.03	2922.86	2000.63	43.555	286.00	240.00	4009.68	2793.74	47.920
217.00	182.86	2938.93	2012.47	43.629	287.00	240.83	4024.74	2804.62	47.973
218.00	183.70	2954.98	2024.29	43.703	288.00	241.65	4039.79	2815.49	48.025
219.00	184.53	2971.01	2036.09	43.776	289.00	242.48	4054.83	2826.36	48.077
220.00	185.37	2987.02	2047.88	43.849	290.00	243.30	4069.87	2837.22	48.129
221.00	186.20	3003.01	2059.65	43.922	291.00	244.12	4084.91	2848.09	48.181
222.00	187.03	3018.98	2071.41	43.994	292.00	244.95	4099.95	2858.95	48.232
223.00	187.87	3034.94	2083.14	44.066	293.00	245.77	4114.99	2869.82	48.284
224.00	188.70	3050.88	2094.86	44.137	294.00	246.59	4130.02	2880.68	48.335
225.00	189.53	3066.80	2106.57	44.208	295.00	247.42	4145.06	2891.54	48.386
226.00	190.36	3082.71	2118.26	44.278	296.00	248.24	4160.09	2902.41	48.437
227.00	191.19	3098.60	2129.93	44.349	297.00	249.06	4175.13	2913.28	48.488
228.00	192.03	3114.47	2141.59	44.418	298.00	249.89	4190.17	2924.15	48.538
229.00	192.86	3130.32	2153.23	44.488	299.00	250.71	4205.20	2935.02	48.589
230.00	193.69	3146.16	2164.85	44.557	300.00	251.53	4220.24	2945.89	48.639

60.00 ATMOSPHERE ISO8AR

TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)	TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)
20.00	12.96	-197.66	-276.47	6.898					
21.00	13.09	-189.48	-269.08	7.300	91.00	61.68	881.45	506.46	28.751
22.00	13.23	-180.93	-261.37	7.695	92.00	62.49	896.37	516.48	28.914
23.00	13.38	-172.00	-253.33	8.094	93.00	63.29	911.31	526.54	29.076
24.00	13.53	-162.67	-244.95	8.493	94.00	64.09	926.29	536.66	29.236
25.00	13.70	-152.93	-236.21	8.888	95.00	64.89	941.30	546.82	29.395
26.00	13.87	-142.76	-227.10	9.287	96.00	65.68	956.34	557.03	29.552
27.00	14.06	-132.13	-217.61	9.687	97.00	66.47	971.42	567.30	29.708
28.00	14.26	-121.05	-207.73	10.092	98.00	67.26	986.53	577.61	29.864
29.00	14.47	-109.49	-197.45	10.495	99.00	68.05	1001.68	587.98	30.017
30.00	14.69	-97.50	-186.83	10.902	100.00	68.83	1016.87	598.40	30.170
31.00	14.93	-84.98	-175.77	11.313	101.00	69.61	1032.10	608.87	30.322
32.00	15.19	-71.99	-164.34	11.728	102.00	70.39	1047.38	619.41	30.472
33.00	15.51	-58.68	-152.95	12.143	103.00	71.17	1062.70	630.02	30.622
34.00	15.80	-44.49	-140.56	12.569	104.00	71.94	1078.07	640.68	30.770
35.00	16.12	-29.68	-127.68	12.997	105.00	72.72	1093.48	651.39	30.917
36.00	16.46	-14.39	-114.49	13.426	106.00	73.49	1108.93	662.15	31.064
37.00	16.84	1.30	-101.05	13.853	107.00	74.25	1124.41	672.97	31.209
38.00	17.24	17.31	-87.50	14.280	108.00	75.02	1139.94	683.84	31.354
39.00	17.68	33.77	-73.68	14.708	109.00	75.79	1155.50	694.75	31.497
40.00	18.15	50.22	-60.11	15.124	110.00	76.55	1171.10	705.71	31.640
41.00	18.66	66.81	-46.63	15.533	111.00	77.31	1186.73	716.72	31.781
42.00	19.21	83.63	-33.17	15.939	112.00	78.07	1202.40	727.77	31.922
43.00	19.81	100.74	-19.67	16.341	113.00	78.83	1218.10	738.87	32.061
44.00	20.45	118.19	-6.12	16.742	114.00	79.58	1233.84	750.00	32.200
45.00	21.13	135.95	7.48	17.142	115.00	80.34	1249.61	761.18	32.338
46.00	21.86	154.00	21.11	17.538	116.00	81.09	1265.40	772.40	32.474
47.00	22.63	172.30	34.72	17.932	117.00	81.84	1281.24	783.65	32.610
48.00	23.44	190.77	48.28	18.321	118.00	82.60	1297.10	794.95	32.745
49.00	24.28	209.35	61.74	18.704	119.00	83.35	1312.99	806.28	32.879
50.00	25.15	227.97	75.06	19.080	120.00	84.09	1328.92	817.66	33.013
51.00	26.05	246.55	88.19	19.448	121.00	84.84	1344.87	829.06	33.145
52.00	26.97	265.06	101.12	19.807	122.00	85.59	1360.85	840.50	33.276
53.00	27.90	283.43	113.83	20.157	123.00	86.34	1376.86	851.97	33.407
54.00	28.84	301.65	126.32	20.498	124.00	87.08	1392.91	863.49	33.537
55.00	29.79	319.69	138.57	20.829	125.00	87.82	1408.99	875.05	33.666
56.00	30.75	337.52	150.59	21.150	126.00	88.56	1425.19	886.75	33.795
57.00	31.71	355.15	162.39	21.462	127.00	89.30	1441.42	898.49	33.924
58.00	32.66	372.57	173.98	21.765	128.00	90.04	1457.69	910.28	34.051
59.00	33.62	389.78	185.37	22.059	129.00	90.78	1474.00	922.11	34.178
60.00	34.58	406.79	196.57	22.345	130.00	91.51	1490.35	933.99	34.304
61.00	35.53	423.60	207.60	22.623	131.00	92.25	1506.74	945.91	34.430
62.00	36.48	440.22	218.46	22.893	132.00	92.98	1523.16	957.87	34.555
63.00	37.42	456.66	229.18	23.157	133.00	93.71	1539.62	969.87	34.679
64.00	38.36	472.93	239.75	23.413	134.00	94.45	1556.12	981.91	34.803
65.00	39.29	489.05	250.20	23.663	135.00	95.18	1572.65	993.99	34.926
66.00	40.21	505.02	260.54	23.906	136.00	95.91	1589.21	1006.11	35.048
67.00	41.13	520.85	270.77	24.144	137.00	96.64	1605.81	1018.26	35.169
68.00	42.05	536.54	280.91	24.377	138.00	97.37	1622.44	1030.45	35.290
69.00	42.96	552.12	290.97	24.605	139.00	98.10	1639.10	1042.67	35.411
70.00	43.86	567.60	300.96	24.827	140.00	98.83	1655.79	1054.92	35.530
71.00	44.76	582.97	310.88	25.045	141.00	99.56	1672.51	1067.21	35.649
72.00	45.65	598.26	320.74	25.259	142.00	100.29	1689.26	1079.52	35.768
73.00	46.53	613.46	330.56	25.469	143.00	101.02	1706.04	1091.87	35.885
74.00	47.41	628.59	340.34	25.675	144.00	101.75	1722.84	1104.24	36.003
75.00	48.29	643.66	350.09	25.877	145.00	102.48	1739.66	1116.63	36.119
76.00	49.16	658.67	359.81	26.076	146.00	103.21	1756.50	1129.05	36.235
77.00	50.02	673.63	369.52	26.271	147.00	103.93	1773.37	1141.49	36.350
78.00	50.88	688.56	379.21	26.464	148.00	104.66	1790.25	1153.96	36.464
79.00	51.74	703.44	388.90	26.653	149.00	105.39	1807.15	1166.44	36.578
80.00	52.59	718.30	398.58	26.840	150.00	106.11	1824.07	1178.94	36.691
81.00	53.44	733.14	408.28	27.025	151.00	106.83	1840.92	1191.40	36.803
82.00	54.28	747.96	417.98	27.207	152.00	107.55	1857.78	1203.88	36.914
83.00	55.11	762.77	427.70	27.386	153.00	108.27	1874.64	1216.37	37.025
84.00	55.95	777.58	437.44	27.563	154.00	108.99	1891.52	1228.87	37.135
85.00	56.78	792.38	447.20	27.739	155.00	109.71	1908.40	1241.38	37.244
86.00	57.60	807.19	456.98	27.912	156.00	110.43	1925.30	1253.91	37.353
87.00	58.43	822.01	466.80	28.083	157.00	111.15	1942.20	1266.44	37.461
88.00	59.25	836.84	476.66	28.253	158.00	111.87	1959.10	1278.98	37.568
89.00	60.06	851.69	486.55	28.420	159.00	112.58	1976.01	1291.53	37.675
90.00	60.87	866.56	496.48	28.587	160.00	113.30	1992.92	1304.09	37.781

TEMPER-ATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)	TEMPER-ATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)
161.00	114.02	2009.84	1316.65	37.886	231.00	163.26	3164.16	2171.63	43.853
162.00	114.73	2026.76	1329.22	37.991	232.00	163.95	3179.99	2183.23	43.922
163.00	115.45	2043.68	1341.80	38.095	233.00	164.64	3195.80	2194.82	43.990
164.00	116.16	2060.61	1354.37	38.199	234.00	165.34	3211.60	2206.40	44.057
165.00	116.88	2077.53	1366.96	38.302	235.00	166.03	3227.39	2217.96	44.125
166.00	117.59	2094.46	1379.54	38.404	236.00	166.73	3243.16	2229.52	44.192
167.00	118.31	2111.38	1392.12	38.506	237.00	167.42	3258.92	2241.06	44.258
168.00	119.02	2128.30	1404.71	38.607	238.00	168.12	3274.67	2252.59	44.325
169.00	119.73	2145.22	1417.30	38.707	239.00	168.81	3290.41	2264.11	44.391
170.00	120.44	2162.14	1429.88	38.807	240.00	169.50	3306.13	2275.62	44.456
171.00	121.15	2179.07	1442.49	38.906	241.00	170.20	3321.84	2287.11	44.522
172.00	121.87	2195.99	1455.09	39.005	242.00	170.89	3337.54	2298.59	44.587
173.00	122.58	2212.91	1467.69	39.103	243.00	171.58	3353.22	2310.07	44.651
174.00	123.28	2229.82	1480.29	39.200	244.00	172.27	3368.89	2321.52	44.716
175.00	123.99	2246.73	1492.89	39.297	245.00	172.97	3384.54	2332.97	44.780
176.00	124.70	2263.63	1505.48	39.394	246.00	173.66	3400.19	2344.40	44.843
177.00	125.41	2280.53	1518.07	39.489	247.00	174.35	3415.81	2355.83	44.907
178.00	126.12	2297.41	1530.65	39.584	248.00	175.04	3431.43	2367.23	44.970
179.00	126.83	2314.29	1543.22	39.679	249.00	175.73	3447.03	2378.63	45.033
180.00	127.53	2331.15	1555.78	39.773	250.00	176.43	3462.61	2390.01	45.095
181.00	128.24	2348.00	1568.34	39.866	251.00	177.12	3478.22	2401.41	45.157
182.00	128.95	2364.84	1580.88	39.959	252.00	177.81	3493.81	2412.80	45.219
183.00	129.65	2381.67	1593.41	40.051	253.00	178.50	3509.38	2424.17	45.281
184.00	130.36	2398.48	1605.93	40.143	254.00	179.19	3524.94	2435.52	45.342
185.00	131.07	2415.27	1618.43	40.234	255.00	179.88	3540.48	2446.86	45.403
186.00	131.77	2432.05	1630.93	40.324	256.00	180.57	3556.00	2458.19	45.464
187.00	132.48	2448.82	1643.40	40.414	257.00	181.26	3571.51	2469.50	45.525
188.00	133.18	2465.56	1655.86	40.504	258.00	181.95	3587.00	2480.79	45.585
189.00	133.89	2482.29	1668.31	40.592	259.00	182.64	3602.47	2492.06	45.645
190.00	134.59	2499.00	1680.74	40.680	260.00	183.33	3617.92	2503.32	45.704
191.00	135.29	2515.69	1693.15	40.768	261.00	184.02	3633.35	2514.56	45.763
192.00	136.00	2532.36	1705.54	40.855	262.00	184.71	3648.77	2525.78	45.822
193.00	136.70	2549.01	1717.91	40.942	263.00	185.40	3664.17	2536.98	45.881
194.00	137.40	2565.63	1730.26	41.028	264.00	186.09	3679.54	2548.16	45.939
195.00	138.11	2582.24	1742.59	41.113	265.00	186.78	3694.90	2559.33	45.997
196.00	138.81	2598.82	1754.90	41.198	266.00	187.47	3710.24	2570.47	46.055
197.00	139.51	2615.38	1767.19	41.282	267.00	188.16	3725.56	2581.60	46.113
198.00	140.22	2631.91	1779.45	41.366	268.00	188.85	3740.86	2592.71	46.170
199.00	140.92	2648.42	1791.69	41.449	269.00	189.54	3756.15	2603.80	46.227
200.00	141.62	2664.91	1803.91	41.532	270.00	190.23	3771.41	2614.87	46.283
201.00	142.32	2681.34	1816.08	41.613	271.00	190.92	3786.66	2625.93	46.340
202.00	143.02	2697.74	1828.22	41.695	272.00	191.61	3801.88	2636.96	46.396
203.00	143.72	2714.12	1840.34	41.776	273.00	192.30	3817.09	2647.98	46.452
204.00	144.42	2730.48	1852.44	41.856	274.00	192.99	3832.29	2658.99	46.507
205.00	145.12	2746.81	1864.51	41.936	275.00	193.68	3847.46	2669.97	46.563
206.00	145.82	2763.11	1876.56	42.015	276.00	194.37	3862.63	2680.95	46.618
207.00	146.52	2779.40	1888.59	42.094	277.00	195.06	3877.77	2691.90	46.672
208.00	147.22	2795.66	1900.60	42.173	278.00	195.74	3892.91	2702.85	46.727
209.00	147.92	2811.89	1912.59	42.250	279.00	196.43	3908.03	2713.78	46.781
210.00	148.62	2828.11	1924.55	42.328	280.00	197.12	3923.13	2724.70	46.835
211.00	149.32	2844.30	1936.49	42.405	281.00	197.81	3938.23	2735.61	46.889
212.00	150.02	2860.47	1948.42	42.481	282.00	198.50	3953.32	2746.51	46.943
213.00	150.72	2876.62	1960.32	42.557	283.00	199.19	3968.40	2757.40	46.996
214.00	151.41	2892.75	1972.20	42.633	284.00	199.88	3983.47	2768.28	47.049
215.00	152.11	2908.85	1984.06	42.708	285.00	200.57	3998.53	2779.16	47.102
216.00	152.81	2924.94	1995.91	42.782	286.00	201.25	4013.59	2790.03	47.155
217.00	153.51	2941.01	2007.73	42.857	287.00	201.94	4028.65	2800.91	47.207
218.00	154.21	2957.06	2019.54	42.930	288.00	202.63	4043.71	2811.78	47.260
219.00	154.90	2973.09	2031.33	43.004	289.00	203.32	4058.76	2822.65	47.312
220.00	155.60	2989.10	2043.11	43.077	290.00	204.01	4073.81	2833.52	47.364
221.00	156.30	3005.09	2054.86	43.149	291.00	204.69	4088.87	2844.40	47.416
222.00	156.99	3021.07	2066.61	43.221	292.00	205.38	4103.93	2855.28	47.468
223.00	157.69	3037.03	2078.33	43.293	293.00	206.07	4119.00	2866.16	47.519
224.00	158.39	3052.98	2090.04	43.365	294.00	206.76	4134.07	2877.05	47.570
225.00	159.08	3068.90	2101.74	43.435	295.00	207.44	4149.14	2887.95	47.622
226.00	159.78	3084.82	2113.42	43.506	296.00	208.13	4164.22	2898.86	47.673
227.00	160.47	3100.72	2125.09	43.576	297.00	208.82	4179.31	2909.77	47.724
228.00	161.17	3116.60	2136.74	43.646	298.00	209.50	4194.41	2920.70	47.774
229.00	161.87	3132.47	2148.38	43.715	299.00	210.19	4209.52	2931.63	47.825
230.00	162.56	3148.32	2160.01	43.785	300.00	210.88	4224.63	2942.58	47.875

70.00 ATMOSPHERE ISOBAR

TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)	TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)
20.00	12.83	-187.07	-278.10	6.774					
21.00	12.96	-179.03	-270.93	7.169	91.00	53.30	870.25	492.20	27.990
22.00	13.08	-170.65	-263.45	7.556	92.00	54.00	885.43	502.43	28.156
23.00	13.22	-161.90	-255.67	7.947	93.00	54.69	900.63	512.70	28.321
24.00	13.36	-152.78	-247.57	8.337	94.00	55.39	915.86	523.02	28.484
25.00	13.51	-143.27	-239.13	8.724	95.00	56.08	931.11	533.37	28.645
26.00	13.68	-133.35	-230.35	9.112	96.00	56.77	946.40	543.77	28.805
27.00	13.84	-123.01	-221.20	9.502	97.00	57.45	961.71	554.23	28.964
28.00	14.02	-112.23	-211.71	9.895	98.00	58.13	977.06	564.72	29.121
29.00	14.21	-101.02	-201.84	10.286	99.00	58.82	992.43	575.26	29.277
30.00	14.42	-89.42	-191.67	10.680	100.00	59.50	1007.84	585.85	29.432
31.00	14.63	-77.34	-181.10	11.076	101.00	60.17	1023.26	596.45	29.585
32.00	14.86	-64.85	-170.22	11.475	102.00	60.85	1038.69	607.09	29.737
33.00	15.13	-52.04	-159.32	11.875	103.00	61.52	1054.16	617.78	29.888
34.00	15.38	-38.51	-147.59	12.280	104.00	62.20	1069.68	628.53	30.038
35.00	15.65	-24.42	-135.43	12.688	105.00	62.87	1085.24	639.33	30.187
36.00	15.94	-9.94	-123.00	13.094	106.00	63.54	1100.84	650.18	30.335
37.00	16.25	4.86	-110.40	13.497	107.00	64.20	1116.48	661.09	30.482
38.00	16.58	19.88	-97.73	13.897	108.00	64.87	1132.17	672.05	30.628
39.00	16.94	35.23	-84.90	14.296	109.00	65.53	1147.89	683.06	30.773
40.00	17.31	50.45	-72.35	14.681	110.00	66.20	1163.65	694.12	30.917
41.00	17.72	65.70	-59.97	15.058	111.00	66.86	1179.44	705.24	31.060
42.00	18.15	81.08	-47.65	15.428	112.00	67.52	1195.28	716.40	31.202
43.00	18.61	96.67	-35.33	15.795	113.00	68.17	1211.15	727.61	31.343
44.00	19.10	112.51	-22.95	16.159	114.00	68.83	1227.05	738.86	31.483
45.00	19.62	128.62	-10.51	16.521	115.00	69.48	1242.99	750.17	31.622
46.00	20.17	145.03	2.00	16.882	116.00	70.13	1258.97	761.52	31.760
47.00	20.74	161.69	14.56	17.240	117.00	70.78	1274.98	772.91	31.898
48.00	21.35	178.61	27.18	17.596	118.00	71.43	1291.02	784.35	32.034
49.00	21.99	195.74	39.81	17.950	119.00	72.08	1307.10	795.84	32.170
50.00	22.64	213.04	52.42	18.299	120.00	72.73	1323.21	807.37	32.305
51.00	23.33	230.46	65.00	18.644	121.00	73.37	1339.34	818.93	32.439
52.00	24.03	247.96	77.51	18.984	122.00	74.01	1355.50	830.53	32.572
53.00	24.75	265.50	89.93	19.318	123.00	74.65	1371.70	842.18	32.704
54.00	25.49	283.05	102.23	19.646	124.00	75.29	1387.93	853.87	32.835
55.00	26.24	300.55	114.41	19.967	125.00	75.93	1404.19	865.61	32.966
56.00	27.01	317.99	126.45	20.281	126.00	76.57	1420.55	877.43	33.096
57.00	27.78	335.35	138.35	20.589	127.00	77.21	1436.95	889.30	33.226
58.00	28.55	352.60	150.09	20.889	128.00	77.85	1453.38	901.21	33.355
59.00	29.33	369.74	161.69	21.182	129.00	78.48	1469.85	913.17	33.483
60.00	30.12	386.75	173.14	21.468	130.00	79.12	1486.35	925.16	33.610
61.00	30.90	403.63	184.44	21.747	131.00	79.75	1502.89	937.19	33.737
62.00	31.69	420.38	195.61	22.019	132.00	80.39	1519.46	949.26	33.863
63.00	32.48	437.00	206.64	22.285	133.00	81.02	1536.06	961.37	33.988
64.00	33.26	453.48	217.56	22.544	134.00	81.66	1552.69	973.51	34.113
65.00	34.05	469.84	228.35	22.798	135.00	82.29	1569.36	985.69	34.237
66.00	34.83	486.07	239.03	23.046	136.00	82.92	1586.05	997.90	34.360
67.00	35.61	502.18	249.62	23.288	137.00	83.55	1602.77	1010.15	34.483
68.00	36.39	518.18	260.11	23.525	138.00	84.18	1619.53	1022.42	34.605
69.00	37.16	534.08	270.52	23.757	139.00	84.81	1636.31	1034.73	34.726
70.00	37.93	549.87	280.85	23.985	140.00	85.44	1653.11	1047.06	34.846
71.00	38.70	565.58	291.11	24.207	141.00	86.07	1669.94	1059.42	34.966
72.00	39.46	581.20	301.31	24.426	142.00	86.70	1686.80	1071.81	35.085
73.00	40.22	596.73	311.47	24.640	143.00	87.33	1703.67	1084.22	35.203
74.00	40.98	612.20	321.57	24.850	144.00	87.96	1720.57	1096.66	35.321
75.00	41.73	627.60	331.64	25.057	145.00	88.59	1737.49	1109.11	35.438
76.00	42.48	642.95	341.68	25.261	146.00	89.22	1754.43	1121.60	35.555
77.00	43.22	658.24	351.69	25.460	147.00	89.85	1771.38	1134.10	35.670
78.00	43.96	673.49	361.68	25.657	148.00	90.48	1788.35	1146.62	35.786
79.00	44.70	688.71	371.66	25.851	149.00	91.10	1805.34	1159.15	35.900
80.00	45.43	703.89	381.64	26.042	150.00	91.73	1822.34	1171.71	36.014
81.00	46.17	719.04	391.61	26.230	151.00	92.35	1839.29	1184.24	36.126
82.00	46.89	734.17	401.58	26.416	152.00	92.97	1856.24	1196.78	36.238
83.00	47.62	749.30	411.56	26.599	153.00	93.60	1873.21	1209.34	36.349
84.00	48.34	764.40	421.55	26.780	154.00	94.22	1890.18	1221.90	36.460
85.00	49.06	779.50	431.57	26.959	155.00	94.84	1907.16	1234.48	36.570
86.00	49.77	794.61	441.60	27.135	156.00	95.46	1924.14	1247.07	36.679
87.00	50.48	809.71	451.66	27.310	157.00	96.08	1941.13	1259.66	36.788
88.00	51.19	824.83	461.74	27.483	158.00	96.70	1958.12	1272.26	36.896
89.00	51.90	839.95	471.86	27.654	159.00	97.31	1975.12	1284.87	37.003
90.00	52.60	855.09	482.01	27.823	160.00	97.93	1992.12	1297.49	37.109

TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)	TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)
161.00	98.55	2009.12	1310.11	37.215	231.00	140.93	3167.25	2167.63	43.202
162.00	99.17	2026.12	1322.73	37.321	232.00	141.53	3183.13	2179.28	43.270
163.00	99.78	2043.12	1335.36	37.425	233.00	142.13	3199.00	2190.91	43.338
164.00	100.40	2060.12	1347.99	37.529	234.00	142.72	3214.85	2202.53	43.406
165.00	101.02	2077.12	1360.62	37.632	235.00	143.32	3230.68	2214.13	43.474
166.00	101.63	2094.12	1373.25	37.735	236.00	143.92	3246.51	2225.72	43.541
167.00	102.25	2111.11	1385.88	37.837	237.00	144.51	3262.31	2237.30	43.608
168.00	102.86	2128.10	1398.51	37.939	238.00	145.11	3278.10	2248.86	43.674
169.00	103.48	2145.09	1411.14	38.039	239.00	145.70	3293.88	2260.41	43.740
170.00	104.09	2162.07	1423.77	38.140	240.00	146.30	3309.64	2271.94	43.806
171.00	104.70	2179.05	1436.40	38.239	241.00	146.90	3325.38	2283.46	43.872
172.00	105.31	2196.02	1449.03	38.338	242.00	147.49	3341.12	2294.97	43.937
173.00	105.93	2212.99	1461.66	38.437	243.00	148.09	3356.83	2306.46	44.002
174.00	106.54	2229.94	1474.28	38.534	244.00	148.68	3372.53	2317.94	44.066
175.00	107.15	2246.89	1486.90	38.631	245.00	149.28	3388.21	2329.40	44.130
176.00	107.76	2263.83	1499.51	38.728	246.00	149.87	3403.88	2340.85	44.194
177.00	108.37	2280.76	1512.11	38.824	247.00	150.47	3419.54	2352.28	44.258
178.00	108.98	2297.68	1524.70	38.919	248.00	151.06	3435.18	2363.71	44.321
179.00	109.59	2314.59	1537.29	39.014	249.00	151.66	3450.80	2375.11	44.384
180.00	110.20	2331.49	1549.86	39.108	250.00	152.25	3466.40	2386.50	44.446
181.00	110.81	2348.37	1562.42	39.202	251.00	152.84	3482.03	2397.92	44.509
182.00	111.42	2365.24	1574.98	39.295	252.00	153.44	3497.64	2409.31	44.571
183.00	112.02	2382.09	1587.52	39.387	253.00	154.03	3513.23	2420.69	44.632
184.00	112.63	2398.93	1600.04	39.479	254.00	154.63	3528.81	2432.06	44.694
185.00	113.24	2415.75	1612.56	39.570	255.00	155.22	3544.37	2443.41	44.755
186.00	113.85	2432.56	1625.06	39.660	256.00	155.81	3559.91	2454.74	44.816
187.00	114.45	2449.35	1637.54	39.750	257.00	156.41	3575.44	2466.06	44.876
188.00	115.06	2466.13	1650.01	39.840	258.00	157.00	3590.94	2477.36	44.937
189.00	115.67	2482.88	1662.46	39.929	259.00	157.59	3606.44	2488.65	44.997
190.00	116.27	2499.62	1674.90	40.017	260.00	158.18	3621.91	2499.91	45.056
191.00	116.88	2516.33	1687.32	40.105	261.00	158.78	3637.37	2511.16	45.116
192.00	117.48	2533.03	1699.72	40.192	262.00	159.37	3652.80	2522.40	45.175
193.00	118.09	2549.71	1712.10	40.279	263.00	159.96	3668.22	2533.62	45.233
194.00	118.70	2566.37	1724.47	40.365	264.00	160.56	3683.63	2544.81	45.292
195.00	119.30	2583.00	1736.81	40.450	265.00	161.15	3699.01	2556.00	45.350
196.00	119.90	2599.62	1749.14	40.535	266.00	161.74	3714.38	2567.16	45.408
197.00	120.51	2616.21	1761.45	40.620	267.00	162.33	3729.73	2578.31	45.465
198.00	121.11	2632.79	1773.73	40.704	268.00	162.93	3745.06	2589.44	45.523
199.00	121.72	2649.34	1786.00	40.787	269.00	163.52	3760.38	2600.56	45.580
200.00	122.32	2665.86	1798.25	40.870	270.00	164.11	3775.68	2611.66	45.637
201.00	122.92	2682.35	1810.45	40.952	271.00	164.70	3790.96	2622.74	45.693
202.00	123.53	2698.81	1822.64	41.034	272.00	165.29	3806.23	2633.80	45.749
203.00	124.13	2715.25	1834.80	41.115	273.00	165.89	3821.48	2644.85	45.805
204.00	124.73	2731.67	1846.94	41.196	274.00	166.48	3836.71	2655.89	45.861
205.00	125.34	2748.06	1859.07	41.276	275.00	167.07	3851.93	2666.91	45.916
206.00	125.94	2764.43	1871.17	41.356	276.00	167.66	3867.13	2677.92	45.972
207.00	126.54	2780.79	1883.25	41.435	277.00	168.25	3882.33	2688.91	46.026
208.00	127.14	2797.11	1895.31	41.513	278.00	168.85	3897.50	2699.89	46.081
209.00	127.74	2813.42	1907.35	41.592	279.00	169.44	3912.67	2710.86	46.136
210.00	128.34	2829.71	1919.37	41.669	280.00	170.03	3927.82	2721.82	46.190
211.00	128.95	2845.97	1931.37	41.747	281.00	170.62	3942.97	2732.76	46.244
212.00	129.55	2862.22	1943.35	41.823	282.00	171.21	3958.10	2743.70	46.298
213.00	130.15	2878.44	1955.31	41.900	283.00	171.80	3973.22	2754.63	46.351
214.00	130.75	2894.64	1967.26	41.976	284.00	172.40	3988.34	2765.55	46.404
215.00	131.35	2910.82	1979.18	42.051	285.00	172.99	4003.45	2776.46	46.458
216.00	131.95	2926.99	1991.08	42.126	286.00	173.58	4018.55	2787.37	46.510
217.00	132.55	2943.13	2002.97	42.201	287.00	174.17	4033.65	2798.28	46.563
218.00	133.15	2959.25	2014.84	42.275	288.00	174.76	4048.74	2809.18	46.616
219.00	133.75	2975.36	2026.69	42.348	289.00	175.35	4063.83	2820.07	46.668
220.00	134.35	2991.45	2038.53	42.422	290.00	175.94	4078.91	2830.97	46.720
221.00	134.95	3007.51	2050.34	42.495	291.00	176.53	4094.00	2841.87	46.772
222.00	135.55	3023.56	2062.14	42.567	292.00	177.12	4109.08	2852.76	46.824
223.00	136.15	3039.60	2073.93	42.639	293.00	177.71	4124.16	2863.66	46.875
224.00	136.74	3055.61	2085.69	42.711	294.00	178.30	4139.24	2874.56	46.927
225.00	137.34	3071.61	2097.45	42.782	295.00	178.89	4154.33	2885.46	46.978
226.00	137.94	3087.59	2109.18	42.853	296.00	179.48	4169.41	2896.36	47.029
227.00	138.54	3103.55	2120.90	42.923	297.00	180.07	4184.50	2907.27	47.080
228.00	139.14	3119.50	2132.61	42.994	298.00	180.66	4199.59	2918.19	47.131
229.00	139.74	3135.43	2144.30	43.063	299.00	181.25	4214.69	2929.10	47.181
230.00	140.33	3151.35	2155.97	43.133	300.00	181.84	4229.78	2940.02	47.232

80.00 ATMOSPHERE ISOBAR

TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)	TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)
20.00	12.72	-176.44	-279.52	6.658					
21.00	12.83	-168.54	-272.53	7.047	91.00	47.11	860.52	478.62	27.326
22.00	12.95	-160.31	-265.27	7.427	92.00	47.73	875.92	489.04	27.494
23.00	13.08	-151.72	-257.72	7.811	93.00	48.34	891.33	499.49	27.661
24.00	13.21	-142.78	-249.86	8.193	94.00	48.95	906.77	509.99	27.826
25.00	13.35	-133.46	-241.68	8.572	95.00	49.56	922.24	520.52	27.990
26.00	13.50	-123.75	-233.17	8.952	96.00	50.16	937.73	531.10	28.152
27.00	13.65	-113.64	-224.33	9.333	97.00	50.77	953.24	541.71	28.313
28.00	13.82	-103.13	-215.15	9.717	98.00	51.37	968.78	552.37	28.472
29.00	13.99	-92.20	-205.62	10.097	99.00	51.97	984.36	563.08	28.630
30.00	14.17	-80.92	-195.82	10.480	100.00	52.57	999.96	573.82	28.787
31.00	14.37	-69.19	-185.65	10.865	101.00	53.17	1015.58	584.58	28.942
32.00	14.57	-57.10	-175.20	11.252	102.00	53.77	1031.21	595.38	29.097
33.00	14.81	-44.65	-164.66	11.639	103.00	54.36	1046.89	606.23	29.249
34.00	15.03	-31.62	-153.44	12.030	104.00	54.95	1062.60	617.13	29.401
35.00	15.27	-18.08	-141.84	12.422	105.00	55.55	1078.36	628.08	29.552
36.00	15.52	-4.20	-130.00	12.811	106.00	56.14	1094.15	639.08	29.702
37.00	15.79	9.95	-118.01	13.196	107.00	56.73	1109.98	650.12	29.850
38.00	16.07	24.26	-106.00	13.577	108.00	57.32	1125.85	661.22	29.998
39.00	16.37	38.82	-93.86	13.956	109.00	57.90	1141.75	672.36	30.145
40.00	16.69	53.20	-82.06	14.319	110.00	58.49	1157.68	683.55	30.290
41.00	17.02	67.53	-70.46	14.673	111.00	59.07	1173.64	694.78	30.434
42.00	17.38	81.93	-58.95	15.020	112.00	59.66	1189.64	706.06	30.578
43.00	17.76	96.47	-47.45	15.362	113.00	60.24	1205.66	717.38	30.720
44.00	18.15	111.21	-35.93	15.701	114.00	60.81	1221.71	728.74	30.862
45.00	18.57	126.19	-24.34	16.038	115.00	61.39	1237.79	740.14	31.002
46.00	19.01	141.42	-12.67	16.373	116.00	61.97	1253.90	751.59	31.142
47.00	19.47	156.90	-.92	16.706	117.00	62.54	1270.03	763.08	31.280
48.00	19.95	172.64	10.91	17.037	118.00	63.11	1286.19	774.61	31.418
49.00	20.46	188.61	22.80	17.366	119.00	63.68	1302.38	786.18	31.554
50.00	20.98	204.80	34.75	17.693	120.00	64.25	1318.59	797.79	31.690
51.00	21.52	221.18	46.73	18.018	121.00	64.81	1334.82	809.43	31.825
52.00	22.08	237.71	58.71	18.339	122.00	65.38	1351.08	821.11	31.958
53.00	22.66	254.37	70.69	18.656	123.00	65.94	1367.36	832.83	32.091
54.00	23.25	271.11	82.64	18.969	124.00	66.50	1383.67	844.60	32.223
55.00	23.86	287.93	94.54	19.277	125.00	67.06	1400.02	856.40	32.355
56.00	24.48	304.78	106.38	19.581	126.00	67.63	1416.49	868.31	32.486
57.00	25.10	321.63	118.14	19.879	127.00	68.19	1433.00	880.25	32.617
58.00	25.74	338.47	129.81	20.172	128.00	68.75	1449.54	892.24	32.746
59.00	26.39	355.28	141.39	20.460	129.00	69.31	1466.12	904.27	32.875
60.00	27.04	372.04	152.88	20.741	130.00	69.87	1482.73	916.34	33.004
61.00	27.69	388.74	164.26	21.017	131.00	70.43	1499.37	928.45	33.131
62.00	28.35	405.37	175.54	21.288	132.00	70.99	1516.05	940.60	33.258
63.00	29.02	421.92	186.72	21.552	133.00	71.55	1532.76	952.78	33.384
64.00	29.68	438.38	197.80	21.812	134.00	72.10	1549.50	965.00	33.509
65.00	30.35	454.77	208.79	22.066	135.00	72.66	1566.27	977.26	33.634
66.00	31.01	471.06	219.68	22.315	136.00	73.22	1583.07	989.55	33.758
67.00	31.68	487.27	230.48	22.558	137.00	73.77	1599.91	1001.87	33.881
68.00	32.34	503.39	241.21	22.797	138.00	74.33	1616.76	1014.22	34.004
69.00	33.01	519.43	251.86	23.031	139.00	74.89	1633.65	1026.61	34.126
70.00	33.67	535.39	262.43	23.261	140.00	75.44	1650.56	1039.02	34.247
71.00	34.34	551.28	272.95	23.486	141.00	76.00	1667.50	1051.46	34.368
72.00	35.00	567.09	283.40	23.707	142.00	76.55	1684.46	1063.93	34.488
73.00	35.66	582.83	293.81	23.925	143.00	77.10	1701.45	1076.42	34.607
74.00	36.31	598.51	304.16	24.138	144.00	77.66	1718.45	1088.94	34.725
75.00	36.97	614.14	314.49	24.348	145.00	78.21	1735.48	1101.48	34.843
76.00	37.62	629.71	324.77	24.554	146.00	78.76	1752.52	1114.04	34.960
77.00	38.27	645.24	335.03	24.757	147.00	79.32	1769.58	1126.62	35.077
78.00	38.92	660.73	345.27	24.957	148.00	79.87	1786.66	1139.22	35.192
79.00	39.56	676.18	355.49	25.154	149.00	80.42	1803.75	1151.84	35.308
80.00	40.20	691.60	365.70	25.348	150.00	80.97	1820.85	1164.47	35.422
81.00	40.84	706.99	375.91	25.539	151.00	81.52	1837.90	1177.07	35.535
82.00	41.48	722.36	386.11	25.727	152.00	82.07	1854.95	1189.69	35.648
83.00	42.12	737.72	396.32	25.914	153.00	82.62	1872.01	1202.32	35.760
84.00	42.75	753.07	406.54	26.097	154.00	83.16	1889.08	1214.95	35.871
85.00	43.38	768.41	416.77	26.279	155.00	83.71	1906.15	1227.60	35.981
86.00	44.01	783.74	427.01	26.458	156.00	84.25	1923.23	1240.25	36.091
87.00	44.63	799.08	437.28	26.636	157.00	84.80	1940.30	1252.91	36.200
88.00	45.26	814.42	447.58	26.811	158.00	85.34	1957.39	1265.58	36.309
89.00	45.88	829.78	457.89	26.984	159.00	85.89	1974.47	1278.25	36.417
90.00	46.50	845.14	468.24	27.156	160.00	86.43	1991.55	1290.92	36.524

TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)	TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)
161.00	86.97	2008.63	1303.60	36.630	231.00	124.20	3170.35	2163.58	42.634
162.00	87.52	2025.71	1316.28	36.736	232.00	124.72	3186.29	2175.28	42.703
163.00	88.06	2042.79	1328.96	36.841	233.00	125.24	3202.21	2186.95	42.772
164.00	88.60	2059.86	1341.64	36.945	234.00	125.77	3218.12	2198.61	42.840
165.00	89.14	2076.93	1354.32	37.049	235.00	126.29	3234.01	2210.25	42.908
166.00	89.68	2094.00	1367.00	37.152	236.00	126.82	3249.88	2221.88	42.975
167.00	90.22	2111.06	1379.68	37.255	237.00	127.34	3265.73	2233.49	43.042
168.00	90.77	2128.11	1392.35	37.356	238.00	127.86	3281.56	2245.08	43.109
169.00	91.31	2145.16	1405.02	37.458	239.00	128.38	3297.37	2256.66	43.175
170.00	91.84	2162.20	1417.68	37.558	240.00	128.91	3313.17	2268.22	43.241
171.00	92.38	2179.22	1430.34	37.658	241.00	129.43	3328.95	2279.76	43.307
172.00	92.92	2196.24	1442.99	37.757	242.00	129.95	3344.71	2291.28	43.372
173.00	93.46	2213.24	1455.63	37.856	243.00	130.47	3360.45	2302.79	43.437
174.00	94.00	2230.23	1468.27	37.954	244.00	131.00	3376.18	2314.29	43.501
175.00	94.53	2247.22	1480.90	38.051	245.00	131.52	3391.88	2325.76	43.566
176.00	95.07	2264.18	1493.51	38.148	246.00	132.04	3407.57	2337.23	43.630
177.00	95.61	2281.14	1506.12	38.244	247.00	132.56	3423.25	2348.67	43.693
178.00	96.14	2298.08	1518.72	38.339	248.00	133.08	3438.90	2360.10	43.756
179.00	96.68	2315.01	1531.31	38.434	249.00	133.60	3454.54	2371.51	43.819
180.00	97.22	2331.93	1543.88	38.528	250.00	134.13	3470.16	2382.91	43.882
181.00	97.75	2348.83	1556.45	38.622	251.00	134.65	3485.80	2394.32	43.944
182.00	98.28	2365.71	1569.00	38.715	252.00	135.17	3501.42	2405.72	44.006
183.00	98.82	2382.58	1581.53	38.807	253.00	135.69	3517.03	2417.11	44.068
184.00	99.35	2399.44	1594.06	38.899	254.00	136.21	3532.62	2428.48	44.130
185.00	99.89	2416.27	1606.57	38.991	255.00	136.73	3548.19	2439.83	44.191
186.00	100.42	2433.09	1619.06	39.081	256.00	137.25	3563.74	2451.17	44.252
187.00	100.95	2449.90	1631.54	39.171	257.00	137.77	3579.28	2462.49	44.312
188.00	101.49	2466.68	1644.01	39.261	258.00	138.29	3594.80	2473.79	44.373
189.00	102.02	2483.45	1656.46	39.350	259.00	138.81	3610.31	2485.08	44.433
190.00	102.55	2500.20	1668.89	39.438	260.00	139.33	3625.80	2496.36	44.492
191.00	103.08	2516.93	1681.31	39.526	261.00	139.85	3641.27	2507.62	44.552
192.00	103.62	2533.65	1693.71	39.613	262.00	140.37	3656.72	2518.86	44.611
193.00	104.15	2550.34	1706.10	39.700	263.00	140.89	3672.16	2530.09	44.670
194.00	104.68	2567.02	1718.47	39.786	264.00	141.41	3687.59	2541.30	44.728
195.00	105.21	2583.68	1730.82	39.872	265.00	141.93	3703.00	2552.50	44.786
196.00	105.74	2600.32	1743.16	39.957	266.00	142.45	3718.39	2563.68	44.844
197.00	106.27	2616.94	1755.47	40.042	267.00	142.97	3733.77	2574.85	44.902
198.00	106.80	2633.54	1767.78	40.126	268.00	143.49	3749.13	2586.00	44.960
199.00	107.33	2650.12	1780.06	40.209	269.00	144.01	3764.48	2597.14	45.017
200.00	107.86	2666.68	1792.32	40.292	270.00	144.52	3779.82	2608.27	45.074
201.00	108.39	2683.22	1804.57	40.375	271.00	145.04	3795.14	2619.38	45.130
202.00	108.92	2699.74	1816.80	40.457	272.00	145.56	3810.44	2630.48	45.187
203.00	109.45	2716.24	1829.01	40.538	273.00	146.08	3825.74	2641.56	45.243
204.00	109.98	2732.72	1841.20	40.619	274.00	146.60	3841.01	2652.64	45.299
205.00	110.51	2749.18	1853.37	40.700	275.00	147.12	3856.28	2663.70	45.354
206.00	111.04	2765.63	1865.53	40.780	276.00	147.64	3871.53	2674.74	45.410
207.00	111.57	2782.05	1877.67	40.859	277.00	148.16	3886.78	2685.78	45.465
208.00	112.09	2798.45	1889.79	40.938	278.00	148.68	3902.01	2696.80	45.520
209.00	112.62	2814.83	1901.89	41.017	279.00	149.20	3917.22	2707.81	45.574
210.00	113.15	2831.19	1913.97	41.095	280.00	149.71	3932.43	2718.82	45.629
211.00	113.68	2847.54	1926.04	41.172	281.00	150.23	3947.63	2729.81	45.683
212.00	114.21	2863.86	1938.08	41.250	282.00	150.75	3962.81	2740.79	45.737
213.00	114.73	2880.17	1950.11	41.326	283.00	151.27	3977.99	2751.76	45.790
214.00	115.26	2896.45	1962.12	41.403	284.00	151.79	3993.16	2762.73	45.844
215.00	115.79	2912.71	1974.12	41.479	285.00	152.31	4008.31	2773.68	45.897
216.00	116.31	2928.96	1986.09	41.554	286.00	152.82	4023.46	2784.63	45.950
217.00	116.84	2945.19	1998.05	41.629	287.00	153.34	4038.60	2795.57	46.003
218.00	117.37	2961.39	2009.99	41.703	288.00	153.86	4053.74	2806.51	46.056
219.00	117.89	2977.58	2021.91	41.777	289.00	154.38	4068.86	2817.44	46.108
220.00	118.42	2993.75	2033.81	41.851	290.00	154.90	4083.98	2828.36	46.160
221.00	118.95	3009.90	2045.70	41.924	291.00	155.41	4099.09	2839.27	46.212
222.00	119.47	3026.03	2057.56	41.997	292.00	155.93	4114.20	2850.19	46.264
223.00	120.00	3042.14	2069.41	42.070	293.00	156.45	4129.30	2861.09	46.316
224.00	120.52	3058.23	2081.25	42.142	294.00	156.96	4144.39	2872.00	46.367
225.00	121.05	3074.31	2093.06	42.213	295.00	157.48	4159.48	2882.90	46.419
226.00	121.57	3090.36	2104.86	42.284	296.00	158.00	4174.56	2893.79	46.470
227.00	122.10	3106.39	2116.64	42.355	297.00	158.51	4189.64	2904.69	46.520
228.00	122.62	3122.41	2128.40	42.426	298.00	159.03	4204.71	2915.58	46.571
229.00	123.15	3138.41	2140.14	42.496	299.00	159.55	4219.78	2926.46	46.622
230.00	123.67	3154.39	2151.87	42.565	300.00	160.06	4234.84	2937.35	46.672

90.00 ATMOSPHERE ISOBAR

TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)	TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)
20.00	12.60	-165.80	-280.75	6.549					
21.00	12.71	-158.01	-273.94	6.932	91.00	42.38	852.22	465.74	26.738
22.00	12.83	-149.91	-266.87	7.306	92.00	42.93	867.79	476.32	26.908
23.00	12.94	-141.47	-259.51	7.683	93.00	43.47	883.38	486.94	27.076
24.00	13.07	-132.69	-251.87	8.059	94.00	44.02	899.00	497.59	27.243
25.00	13.20	-123.54	-243.91	8.430	95.00	44.56	914.63	508.28	27.409
26.00	13.34	-114.02	-235.65	8.803	96.00	45.10	930.29	519.01	27.573
27.00	13.48	-104.11	-227.06	9.177	97.00	45.64	945.98	529.78	27.735
28.00	13.63	-93.82	-218.15	9.553	98.00	46.18	961.69	540.59	27.897
29.00	13.79	-83.13	-208.92	9.925	99.00	46.71	977.43	551.44	28.056
30.00	13.96	-72.11	-199.43	10.299	100.00	47.25	993.19	562.33	28.215
31.00	14.14	-60.67	-189.59	10.674	101.00	47.78	1008.93	573.19	28.371
32.00	14.32	-48.90	-179.50	11.051	102.00	48.31	1024.64	584.04	28.526
33.00	14.53	-36.73	-169.24	11.429	103.00	48.85	1040.39	594.94	28.680
34.00	14.73	-24.10	-158.44	11.808	104.00	49.38	1056.18	605.89	28.832
35.00	14.94	-11.00	-147.27	12.187	105.00	49.91	1072.02	616.90	28.984
36.00	15.17	2.41	-135.90	12.563	106.00	50.43	1087.89	627.95	29.134
37.00	15.40	16.06	-124.40	12.934	107.00	50.96	1103.80	639.06	29.284
38.00	15.65	29.84	-112.88	13.301	108.00	51.49	1119.75	650.22	29.432
39.00	15.91	43.81	-101.30	13.664	109.00	52.01	1135.75	661.43	29.580
40.00	16.19	57.55	-90.07	14.012	110.00	52.53	1151.78	672.69	29.726
41.00	16.48	71.20	-79.05	14.349	111.00	53.06	1167.86	684.01	29.872
42.00	16.78	84.88	-68.15	14.679	112.00	53.58	1183.97	695.38	30.016
43.00	17.10	98.66	-57.28	15.003	113.00	54.10	1200.13	706.81	30.160
44.00	17.44	112.60	-46.40	15.323	114.00	54.61	1216.32	718.28	30.302
45.00	17.79	126.74	-35.46	15.641	115.00	55.13	1232.55	729.81	30.444
46.00	18.15	141.10	-24.43	15.957	116.00	55.64	1248.82	741.39	30.585
47.00	18.54	155.71	-13.33	16.271	117.00	56.15	1265.13	753.02	30.725
48.00	18.94	170.55	-2.12	16.583	118.00	56.67	1281.47	764.71	30.864
49.00	19.35	185.63	9.17	16.894	119.00	57.18	1297.85	776.44	31.002
50.00	19.78	200.93	20.54	17.204	120.00	57.68	1314.26	788.22	31.140
51.00	20.23	216.45	31.97	17.511	121.00	58.19	1330.70	800.04	31.276
52.00	20.69	232.15	43.46	17.816	122.00	58.69	1347.17	811.91	31.412
53.00	21.17	248.01	54.99	18.118	123.00	59.20	1363.67	823.82	31.546
54.00	21.66	264.02	66.54	18.417	124.00	59.70	1380.20	835.77	31.680
55.00	22.16	280.15	78.10	18.713	125.00	60.20	1396.77	847.77	31.813
56.00	22.67	296.37	89.64	19.005	126.00	60.70	1413.39	859.79	31.946
57.00	23.19	312.67	101.16	19.294	127.00	61.21	1430.04	871.85	32.077
58.00	23.73	329.00	112.65	19.578	128.00	61.71	1446.72	883.95	32.208
59.00	24.27	345.38	124.09	19.858	129.00	62.21	1463.43	896.08	32.338
60.00	24.81	361.76	135.48	20.133	130.00	62.71	1480.17	908.25	32.467
61.00	25.37	378.14	146.80	20.404	131.00	63.21	1496.94	920.46	32.596
62.00	25.93	394.51	158.07	20.670	132.00	63.71	1513.73	932.69	32.724
63.00	26.49	410.84	169.26	20.931	133.00	64.21	1530.55	944.96	32.851
64.00	27.06	427.15	180.39	21.188	134.00	64.71	1547.40	957.26	32.977
65.00	27.63	443.41	191.44	21.440	135.00	65.21	1564.27	969.59	33.102
66.00	28.20	459.62	202.43	21.688	136.00	65.71	1581.17	981.94	33.227
67.00	28.78	475.78	213.35	21.931	137.00	66.21	1598.09	994.33	33.351
68.00	29.35	491.89	224.20	22.169	138.00	66.70	1615.03	1006.74	33.474
69.00	29.93	507.94	234.99	22.404	139.00	67.20	1631.99	1019.18	33.596
70.00	30.51	523.94	245.73	22.634	140.00	67.69	1648.97	1031.64	33.718
71.00	31.09	539.88	256.40	22.860	141.00	68.19	1665.98	1044.13	33.839
72.00	31.66	555.77	267.03	23.082	142.00	68.68	1683.00	1056.63	33.960
73.00	32.24	571.61	277.61	23.301	143.00	69.18	1700.04	1069.17	34.079
74.00	32.81	587.40	288.16	23.516	144.00	69.67	1717.10	1081.72	34.198
75.00	33.39	603.15	298.66	23.727	145.00	70.17	1734.17	1094.29	34.316
76.00	33.96	618.86	309.14	23.935	146.00	70.66	1751.26	1106.88	34.434
77.00	34.54	634.53	319.59	24.140	147.00	71.15	1768.37	1119.49	34.550
78.00	35.11	650.16	330.02	24.342	148.00	71.64	1785.49	1132.12	34.666
79.00	35.68	665.77	340.43	24.541	149.00	72.14	1802.62	1144.77	34.782
80.00	36.24	681.36	350.83	24.737	150.00	72.63	1819.77	1157.43	34.896
81.00	36.81	696.92	361.23	24.930	151.00	73.12	1836.88	1170.08	35.010
82.00	37.38	712.46	371.62	25.121	152.00	73.61	1854.01	1182.75	35.123
83.00	37.94	727.99	382.02	25.309	153.00	74.10	1871.15	1195.43	35.236
84.00	38.50	743.51	392.43	25.495	154.00	74.58	1888.29	1208.12	35.347
85.00	39.06	759.03	402.84	25.678	155.00	75.07	1905.44	1220.82	35.458
86.00	39.62	774.55	413.27	25.860	156.00	75.56	1922.59	1233.53	35.569
87.00	40.17	790.06	423.71	26.039	157.00	76.05	1939.74	1246.24	35.678
88.00	40.73	805.59	434.18	26.217	158.00	76.53	1956.90	1258.96	35.787
89.00	41.28	821.12	444.67	26.392	159.00	77.02	1974.06	1271.69	35.895
90.00	41.83	836.66	455.19	26.566	160.00	77.50	1991.22	1284.42	36.003

TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)	TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)
161.00	77.99	2008.38	1297.16	36.110	231.00	111.19	3173.62	2159.63	42.133
162.00	78.47	2025.54	1309.89	36.216	232.00	111.66	3189.60	2171.35	42.202
163.00	78.96	2042.69	1322.63	36.322	233.00	112.12	3205.56	2183.06	42.271
164.00	79.44	2059.85	1335.37	36.427	234.00	112.59	3221.50	2194.74	42.339
165.00	79.93	2077.00	1348.11	36.531	235.00	113.06	3237.42	2206.41	42.407
166.00	80.41	2094.14	1360.84	36.635	236.00	113.52	3253.32	2218.06	42.474
167.00	80.89	2111.28	1373.58	36.737	237.00	113.99	3269.21	2229.69	42.541
168.00	81.38	2128.41	1386.31	36.840	238.00	114.45	3285.07	2241.31	42.608
169.00	81.86	2145.53	1399.03	36.941	239.00	114.92	3300.92	2252.91	42.675
170.00	82.34	2162.65	1411.75	37.042	240.00	115.39	3316.75	2264.49	42.741
171.00	82.82	2179.74	1424.46	37.143	241.00	115.85	3332.56	2276.06	42.807
172.00	83.30	2196.82	1437.16	37.242	242.00	116.32	3348.35	2287.60	42.872
173.00	83.78	2213.89	1449.84	37.341	243.00	116.78	3364.13	2299.14	42.937
174.00	84.26	2230.94	1462.52	37.439	244.00	117.25	3379.88	2310.65	43.002
175.00	84.74	2247.99	1475.19	37.537	245.00	117.71	3395.62	2322.15	43.066
176.00	85.22	2265.02	1487.85	37.634	246.00	118.18	3411.34	2333.63	43.130
177.00	85.70	2282.03	1500.50	37.731	247.00	118.64	3427.04	2345.10	43.194
178.00	86.18	2299.03	1513.14	37.826	248.00	119.11	3442.73	2356.55	43.257
179.00	86.66	2316.02	1525.77	37.921	249.00	119.57	3458.39	2367.98	43.320
180.00	87.13	2332.99	1538.38	38.016	250.00	120.03	3474.04	2379.40	43.383
181.00	87.61	2349.94	1550.98	38.110	251.00	120.50	3489.71	2390.83	43.445
182.00	88.09	2366.88	1563.57	38.203	252.00	120.96	3505.36	2402.25	43.508
183.00	88.56	2383.80	1576.14	38.296	253.00	121.43	3520.99	2413.66	43.570
184.00	89.04	2400.71	1588.70	38.388	254.00	121.89	3536.61	2425.04	43.631
185.00	89.52	2417.59	1601.24	38.480	255.00	122.35	3552.21	2436.42	43.693
186.00	89.99	2434.46	1613.77	38.571	256.00	122.82	3567.79	2447.77	43.753
187.00	90.47	2451.31	1626.28	38.661	257.00	123.28	3583.35	2459.11	43.814
188.00	90.94	2468.15	1638.78	38.751	258.00	123.74	3598.90	2470.44	43.875
189.00	91.42	2484.96	1651.26	38.840	259.00	124.21	3614.43	2481.75	43.935
190.00	91.89	2501.75	1663.73	38.928	260.00	124.67	3629.95	2493.04	43.994
191.00	92.37	2518.53	1676.18	39.017	261.00	125.13	3645.45	2504.32	44.054
192.00	92.84	2535.29	1688.61	39.104	262.00	125.59	3660.93	2515.58	44.113
193.00	93.32	2552.03	1701.02	39.191	263.00	126.06	3676.40	2526.83	44.172
194.00	93.79	2568.75	1713.42	39.277	264.00	126.52	3691.85	2538.06	44.231
195.00	94.26	2585.45	1725.80	39.363	265.00	126.98	3707.28	2549.27	44.289
196.00	94.74	2602.13	1738.17	39.449	266.00	127.44	3722.70	2560.48	44.347
197.00	95.21	2618.79	1750.51	39.533	267.00	127.91	3738.11	2571.66	44.405
198.00	95.68	2635.43	1762.84	39.618	268.00	128.37	3753.50	2582.84	44.462
199.00	96.16	2652.05	1775.15	39.701	269.00	128.83	3768.87	2593.99	44.520
200.00	96.63	2668.65	1787.45	39.785	270.00	129.29	3784.24	2605.14	44.577
201.00	97.10	2685.24	1799.72	39.867	271.00	129.76	3799.58	2616.27	44.633
202.00	97.57	2701.80	1811.98	39.950	272.00	130.22	3814.92	2627.39	44.690
203.00	98.05	2718.35	1824.22	40.031	273.00	130.68	3830.24	2638.49	44.746
204.00	98.52	2734.87	1836.45	40.112	274.00	131.14	3845.54	2649.58	44.802
205.00	98.99	2751.37	1848.65	40.193	275.00	131.61	3860.84	2660.66	44.858
206.00	99.46	2767.86	1860.84	40.273	276.00	132.07	3876.12	2671.73	44.913
207.00	99.93	2784.33	1873.01	40.353	277.00	132.53	3891.38	2682.78	44.969
208.00	100.40	2800.77	1885.16	40.432	278.00	132.99	3906.64	2693.82	45.023
209.00	100.87	2817.20	1897.29	40.511	279.00	133.45	3921.89	2704.86	45.078
210.00	101.34	2833.60	1909.41	40.589	280.00	133.92	3937.12	2715.88	45.133
211.00	101.81	2849.99	1921.50	40.667	281.00	134.38	3952.34	2726.89	45.187
212.00	102.28	2866.36	1933.58	40.745	282.00	134.84	3967.56	2737.89	45.241
213.00	102.75	2882.70	1945.64	40.822	283.00	135.30	3982.76	2748.88	45.295
214.00	103.22	2899.03	1957.68	40.898	284.00	135.76	3997.95	2759.86	45.348
215.00	103.69	2915.34	1969.70	40.974	285.00	136.22	4013.14	2770.84	45.402
216.00	104.16	2931.63	1981.71	41.050	286.00	136.69	4028.31	2781.81	45.455
217.00	104.63	2947.89	1993.70	41.125	287.00	137.15	4043.48	2792.76	45.508
218.00	105.10	2964.14	2005.67	41.200	288.00	137.61	4058.63	2803.72	45.561
219.00	105.57	2980.37	2017.62	41.274	289.00	138.07	4073.78	2814.66	45.613
220.00	106.04	2996.58	2029.55	41.348	290.00	138.53	4088.92	2825.60	45.665
221.00	106.51	3012.77	2041.46	41.421	291.00	138.99	4104.06	2836.53	45.718
222.00	106.98	3028.94	2053.36	41.494	292.00	139.45	4119.18	2847.46	45.769
223.00	107.45	3045.10	2065.24	41.567	293.00	139.91	4134.30	2858.38	45.821
224.00	107.91	3061.23	2077.10	41.639	294.00	140.37	4149.42	2869.30	45.873
225.00	108.38	3077.34	2088.95	41.711	295.00	140.83	4164.53	2880.21	45.924
226.00	108.85	3093.44	2100.77	41.782	296.00	141.29	4179.63	2891.12	45.975
227.00	109.32	3109.51	2112.58	41.853	297.00	141.75	4194.72	2902.03	46.026
228.00	109.79	3125.57	2124.37	41.924	298.00	142.21	4209.81	2912.93	46.077
229.00	110.25	3141.60	2136.14	41.994	299.00	142.67	4224.89	2923.83	46.127
230.00	110.72	3157.62	2147.90	42.064	300.00	143.13	4239.97	2934.73	46.178

100.00 ATMOSPHERE ISOBAR

TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)	TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)
20.00	12.50	-155.16	-281.83	6.445					
21.00	12.60	-147.47	-275.17	6.823	91.00	38.66	845.28	453.57	26.211
22.00	12.71	-139.49	-268.27	7.192	92.00	39.15	860.99	464.30	26.383
23.00	12.82	-131.17	-261.09	7.564	93.00	39.64	876.72	475.06	26.553
24.00	12.94	-122.53	-253.64	7.933	94.00	40.13	892.48	485.85	26.721
25.00	13.06	-113.53	-245.89	8.299	95.00	40.62	908.25	496.67	26.888
26.00	13.19	-104.17	-237.84	8.665	96.00	41.11	924.05	507.54	27.054
27.00	13.33	-94.44	-229.48	9.032	97.00	41.59	939.88	518.44	27.218
28.00	13.47	-84.34	-220.81	9.401	98.00	42.08	955.73	529.38	27.380
29.00	13.62	-73.86	-211.82	9.766	99.00	42.56	971.60	540.36	27.541
30.00	13.77	-63.07	-202.59	10.133	100.00	43.04	987.50	551.38	27.701
31.00	13.93	-51.87	-193.04	10.500	101.00	43.52	1003.37	562.36	27.859
32.00	14.10	-40.37	-183.25	10.868	102.00	44.00	1019.21	573.34	28.015
33.00	14.29	-28.42	-173.21	11.238	103.00	44.48	1035.09	584.37	28.170
34.00	14.47	-16.12	-162.76	11.607	104.00	44.96	1051.01	595.45	28.324
35.00	14.66	-3.38	-151.97	11.976	105.00	45.44	1066.97	606.58	28.477
36.00	14.87	9.65	-140.97	12.341	106.00	45.91	1082.98	617.77	28.628
37.00	15.08	22.91	-129.86	12.702	107.00	46.39	1099.02	629.00	28.779
38.00	15.30	36.26	-118.76	13.058	108.00	46.86	1115.10	640.28	28.929
39.00	15.53	49.76	-107.61	13.409	109.00	47.33	1131.23	651.62	29.077
40.00	15.78	63.01	-96.83	13.744	110.00	47.80	1147.39	663.00	29.225
41.00	16.03	76.13	-86.29	14.068	111.00	48.28	1163.60	674.44	29.372
42.00	16.30	89.25	-75.87	14.384	112.00	48.74	1179.84	685.92	29.517
43.00	16.57	102.45	-65.50	14.694	113.00	49.21	1196.12	697.45	29.662
44.00	16.86	115.77	-55.11	15.001	114.00	49.68	1212.44	709.03	29.806
45.00	17.17	129.27	-44.68	15.304	115.00	50.15	1228.79	720.66	29.949
46.00	17.48	142.97	-34.17	15.605	116.00	50.61	1245.18	732.33	30.090
47.00	17.81	156.89	-23.58	15.905	117.00	51.08	1261.60	744.06	30.231
48.00	18.15	171.04	-12.88	16.203	118.00	51.54	1278.05	755.82	30.371
49.00	18.51	185.42	-2.09	16.499	119.00	52.00	1294.54	767.63	30.511
50.00	18.87	200.02	8.79	16.794	120.00	52.46	1311.06	779.49	30.649
51.00	19.25	214.84	19.77	17.087	121.00	52.92	1327.60	791.38	30.786
52.00	19.64	229.85	30.82	17.379	122.00	53.38	1344.18	803.31	30.922
53.00	20.05	245.04	41.94	17.668	123.00	53.84	1360.78	815.28	31.058
54.00	20.46	260.41	53.11	17.956	124.00	54.29	1377.41	827.29	31.193
55.00	20.88	275.92	64.32	18.240	125.00	54.75	1394.07	839.34	31.326
56.00	21.32	291.56	75.55	18.522	126.00	55.20	1410.79	851.43	31.460
57.00	21.76	307.31	86.80	18.801	127.00	55.66	1427.54	863.56	31.592
58.00	22.22	323.15	98.05	19.076	128.00	56.11	1444.32	875.73	31.724
59.00	22.68	339.06	109.29	19.348	129.00	56.57	1461.13	887.93	31.855
60.00	23.14	355.03	120.52	19.617	130.00	57.02	1477.96	900.16	31.985
61.00	23.62	371.04	131.71	19.881	131.00	57.48	1494.82	912.43	32.114
62.00	24.10	387.07	142.88	20.142	132.00	57.93	1511.71	924.73	32.242
63.00	24.59	403.13	154.01	20.399	133.00	58.38	1528.62	937.06	32.370
64.00	25.08	419.18	165.09	20.652	134.00	58.83	1545.55	949.42	32.497
65.00	25.57	435.23	176.14	20.901	135.00	59.28	1562.51	961.81	32.623
66.00	26.07	451.27	187.13	21.145	136.00	59.73	1579.49	974.23	32.748
67.00	26.57	467.29	198.08	21.386	137.00	60.18	1596.49	986.68	32.873
68.00	27.07	483.29	208.98	21.623	138.00	60.63	1613.51	999.15	32.996
69.00	27.58	499.26	219.84	21.856	139.00	61.08	1630.55	1011.65	33.119
70.00	28.08	515.20	230.66	22.086	140.00	61.53	1647.62	1024.17	33.242
71.00	28.59	531.11	241.43	22.312	141.00	61.97	1664.70	1036.72	33.363
72.00	29.10	546.99	252.16	22.534	142.00	62.42	1681.79	1049.30	33.484
73.00	29.61	562.84	262.86	22.752	143.00	62.87	1698.91	1061.89	33.604
74.00	30.12	578.66	273.52	22.967	144.00	63.31	1716.04	1074.51	33.724
75.00	30.62	594.45	284.15	23.179	145.00	63.76	1733.19	1087.15	33.842
76.00	31.13	610.21	294.76	23.388	146.00	64.20	1750.35	1099.81	33.960
77.00	31.64	625.95	305.35	23.594	147.00	64.65	1767.53	1112.49	34.077
78.00	32.15	641.67	315.92	23.797	148.00	65.09	1784.72	1125.18	34.194
79.00	32.66	657.36	326.48	23.997	149.00	65.53	1801.93	1137.90	34.310
80.00	33.16	673.04	337.03	24.194	150.00	65.98	1819.15	1150.63	34.425
81.00	33.67	688.71	347.58	24.388	151.00	66.42	1836.34	1163.34	34.539
82.00	34.17	704.36	358.12	24.581	152.00	66.86	1853.55	1176.07	34.653
83.00	34.67	720.01	368.67	24.770	153.00	67.30	1870.76	1188.81	34.766
84.00	35.18	735.65	379.22	24.958	154.00	67.74	1887.98	1201.56	34.878
85.00	35.68	751.29	389.79	25.143	155.00	68.18	1905.20	1214.32	34.989
86.00	36.18	766.94	400.36	25.326	156.00	68.62	1922.43	1227.08	35.100
87.00	36.68	782.58	410.96	25.507	157.00	69.06	1939.66	1239.86	35.210
88.00	37.17	798.24	421.58	25.685	158.00	69.50	1956.89	1252.64	35.320
89.00	37.67	813.91	432.22	25.863	159.00	69.94	1974.13	1265.42	35.428
90.00	38.16	829.59	442.88	26.038	160.00	70.38	1991.37	1278.21	35.537

TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)	TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)
161.00	70.82	2008.60	1291.00	35.644	231.00	100.79	3177.17	2155.88	41.685
162.00	71.26	2025.84	1303.80	35.751	232.00	101.21	3193.18	2167.62	41.754
163.00	71.70	2043.07	1316.59	35.857	233.00	101.63	3209.17	2179.35	41.822
164.00	72.13	2060.29	1329.38	35.962	234.00	102.05	3225.15	2191.05	41.891
165.00	72.57	2077.52	1342.17	36.067	235.00	102.48	3241.10	2202.74	41.959
166.00	73.01	2094.74	1354.96	36.171	236.00	102.90	3257.03	2214.41	42.027
167.00	73.44	2111.95	1367.75	36.274	237.00	103.32	3272.94	2226.07	42.094
168.00	73.88	2129.15	1380.53	36.377	238.00	103.74	3288.84	2237.70	42.161
169.00	74.32	2146.35	1393.31	36.479	239.00	104.16	3304.71	2249.32	42.227
170.00	74.75	2163.53	1406.08	36.580	240.00	104.58	3320.57	2260.92	42.294
171.00	75.19	2180.69	1418.83	36.681	241.00	105.00	3336.41	2272.51	42.359
172.00	75.62	2197.83	1431.57	36.781	242.00	105.42	3352.23	2284.07	42.425
173.00	76.06	2214.96	1444.30	36.880	243.00	105.84	3368.03	2295.62	42.490
174.00	76.49	2232.08	1457.03	36.979	244.00	106.25	3383.81	2307.16	42.555
175.00	76.92	2249.18	1469.74	37.077	245.00	106.67	3399.57	2318.67	42.619
176.00	77.36	2266.27	1482.44	37.174	246.00	107.09	3415.32	2330.17	42.683
177.00	77.79	2283.34	1495.13	37.271	247.00	107.51	3431.05	2341.66	42.747
178.00	78.22	2300.40	1507.81	37.367	248.00	107.93	3446.75	2353.12	42.811
179.00	78.65	2317.44	1520.47	37.463	249.00	108.35	3462.45	2364.57	42.874
180.00	79.08	2334.46	1533.13	37.557	250.00	108.77	3478.12	2376.01	42.937
181.00	79.52	2351.47	1545.76	37.652	251.00	109.19	3493.81	2387.46	42.999
182.00	79.95	2368.46	1558.39	37.745	252.00	109.60	3509.48	2398.90	43.062
183.00	80.38	2385.43	1570.99	37.838	253.00	110.02	3525.14	2410.32	43.124
184.00	80.81	2402.38	1583.59	37.931	254.00	110.44	3540.78	2421.72	43.185
185.00	81.24	2419.32	1596.17	38.022	255.00	110.86	3556.40	2433.11	43.247
186.00	81.67	2436.23	1608.73	38.114	256.00	111.27	3572.01	2444.48	43.308
187.00	82.10	2453.13	1621.27	38.204	257.00	111.69	3587.60	2455.84	43.369
188.00	82.52	2470.01	1633.80	38.294	258.00	112.11	3603.17	2467.18	43.429
189.00	82.95	2486.87	1646.32	38.384	259.00	112.53	3618.72	2478.51	43.489
190.00	83.38	2503.70	1658.82	38.472	260.00	112.94	3634.26	2489.82	43.549
191.00	83.81	2520.52	1671.30	38.561	261.00	113.36	3649.79	2501.12	43.609
192.00	84.24	2537.32	1683.76	38.648	262.00	113.78	3665.30	2512.40	43.668
193.00	84.67	2554.10	1696.20	38.736	263.00	114.20	3680.79	2523.66	43.727
194.00	85.09	2570.86	1708.63	38.822	264.00	114.61	3696.26	2534.91	43.786
195.00	85.52	2587.60	1721.04	38.908	265.00	115.03	3711.72	2546.15	43.844
196.00	85.95	2604.33	1733.44	38.994	266.00	115.45	3727.17	2557.37	43.902
197.00	86.37	2621.03	1745.81	39.079	267.00	115.86	3742.60	2568.58	43.960
198.00	86.80	2637.71	1758.17	39.163	268.00	116.28	3758.02	2579.77	44.018
199.00	87.23	2654.37	1770.51	39.247	269.00	116.70	3773.42	2590.95	44.075
200.00	87.65	2671.01	1782.84	39.331	270.00	117.11	3788.81	2602.11	44.132
201.00	88.08	2687.64	1795.14	39.414	271.00	117.53	3804.19	2613.26	44.189
202.00	88.51	2704.24	1807.43	39.496	272.00	117.95	3819.55	2624.40	44.246
203.00	88.93	2720.83	1819.71	39.578	273.00	118.37	3834.89	2635.53	44.302
204.00	89.36	2737.40	1831.96	39.659	274.00	118.78	3850.23	2646.64	44.358
205.00	89.78	2753.94	1844.20	39.740	275.00	119.20	3865.55	2657.74	44.414
206.00	90.21	2770.47	1856.41	39.821	276.00	119.62	3880.86	2668.82	44.470
207.00	90.63	2786.98	1868.61	39.901	277.00	120.03	3896.16	2679.90	44.525
208.00	91.06	2803.46	1880.79	39.980	278.00	120.45	3911.45	2690.96	44.580
209.00	91.48	2819.93	1892.96	40.059	279.00	120.87	3926.72	2702.02	44.635
210.00	91.91	2836.38	1905.10	40.138	280.00	121.28	3941.98	2713.06	44.689
211.00	92.33	2852.81	1917.23	40.216	281.00	121.70	3957.23	2724.09	44.744
212.00	92.76	2869.21	1929.33	40.293	282.00	122.12	3972.48	2735.11	44.798
213.00	93.18	2885.60	1941.42	40.370	283.00	122.53	3987.71	2746.12	44.852
214.00	93.60	2901.97	1953.49	40.447	284.00	122.95	4002.93	2757.13	44.906
215.00	94.03	2918.31	1965.54	40.523	285.00	123.36	4018.14	2768.12	44.959
216.00	94.45	2934.64	1977.58	40.599	286.00	123.78	4033.34	2779.11	45.012
217.00	94.88	2950.95	1989.59	40.674	287.00	124.20	4048.53	2790.08	45.065
218.00	95.30	2967.24	2001.59	40.749	288.00	124.61	4063.71	2801.05	45.118
219.00	95.72	2983.51	2013.57	40.824	289.00	125.03	4078.89	2812.01	45.171
220.00	96.15	2999.75	2025.53	40.898	290.00	125.44	4094.05	2822.97	45.223
221.00	96.57	3015.98	2037.47	40.971	291.00	125.86	4109.21	2833.92	45.275
222.00	96.99	3032.19	2049.39	41.044	292.00	126.27	4124.36	2844.86	45.327
223.00	97.41	3048.38	2061.30	41.117	293.00	126.69	4139.50	2855.80	45.379
224.00	97.84	3064.55	2073.18	41.189	294.00	127.10	4154.63	2866.73	45.431
225.00	98.26	3080.69	2085.05	41.261	295.00	127.52	4169.76	2877.66	45.482
226.00	98.68	3096.82	2096.90	41.333	296.00	127.93	4184.87	2888.58	45.533
227.00	99.10	3112.93	2108.73	41.404	297.00	128.34	4199.98	2899.50	45.584
228.00	99.53	3129.02	2120.55	41.475	298.00	128.76	4215.08	2910.41	45.635
229.00	99.95	3145.09	2132.34	41.545	299.00	129.17	4230.18	2921.32	45.685
230.00	100.37	3161.14	2144.12	41.615	300.00	129.58	4245.27	2932.22	45.736

120.00 ATMOSPHERE ISOBAR

TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)
20.00	12.31	-133.87	-283.57	6.253
21.00	12.40	-126.36	-277.18	6.622
22.00	12.50	-118.57	-270.57	6.981
23.00	12.60	-110.48	-263.70	7.343
24.00	12.71	-102.08	-256.58	7.703
25.00	12.82	-93.34	-249.18	8.058
26.00	12.93	-84.26	-241.49	8.413
27.00	13.05	-74.82	-233.51	8.769
28.00	13.18	-65.03	-225.24	9.126
29.00	13.31	-54.89	-216.66	9.480
30.00	13.44	-44.46	-207.88	9.834
31.00	13.58	-33.65	-198.78	10.188
32.00	13.73	-22.58	-189.48	10.543
33.00	13.88	-10.99	-179.79	10.902
34.00	14.04	.78	-169.90	11.255
35.00	14.20	12.96	-159.70	11.608
36.00	14.37	25.42	-149.30	11.957
37.00	14.55	38.07	-138.80	12.301
38.00	14.73	50.79	-128.31	12.640
39.00	14.92	63.59	-117.84	12.973
40.00	15.12	76.10	-107.76	13.289
41.00	15.33	88.45	-97.92	13.594
42.00	15.54	100.76	-88.23	13.891
43.00	15.77	113.10	-78.60	14.181
44.00	16.00	125.54	-68.96	14.467
45.00	16.24	138.12	-59.30	14.750
46.00	16.48	150.87	-49.56	15.030
47.00	16.74	163.81	-39.73	15.308
48.00	17.00	176.95	-29.81	15.585
49.00	17.28	190.31	-19.77	15.860
50.00	17.56	203.87	-9.64	16.135
51.00	17.85	217.64	.61	16.407
52.00	18.15	231.61	10.95	16.679
53.00	18.45	245.78	21.39	16.948
54.00	18.77	260.13	31.91	17.217
55.00	19.09	274.65	42.51	17.483
56.00	19.42	289.32	53.17	17.747
57.00	19.76	304.15	63.89	18.010
58.00	20.10	319.10	74.66	18.270
59.00	20.45	334.17	85.46	18.527
60.00	20.81	349.35	96.29	18.783
61.00	21.18	364.62	107.15	19.035
62.00	21.54	379.97	118.02	19.285
63.00	21.92	395.39	128.90	19.531
64.00	22.30	410.87	139.77	19.775
65.00	22.68	426.40	150.65	20.016
66.00	23.07	441.97	161.52	20.254
67.00	23.46	457.57	172.38	20.488
68.00	23.85	473.21	183.23	20.720
69.00	24.24	488.86	194.07	20.948
70.00	24.64	504.53	204.89	21.174
71.00	25.04	520.21	215.70	21.396
72.00	25.45	535.90	226.49	21.616
73.00	25.85	551.60	237.27	21.832
74.00	26.26	567.30	248.04	22.046
75.00	26.66	583.01	258.79	22.257
76.00	27.07	598.72	269.54	22.465
77.00	27.48	614.43	280.27	22.670
78.00	27.89	630.14	291.01	22.873
79.00	28.30	645.86	301.74	23.073
80.00	28.71	661.58	312.47	23.271
81.00	29.12	677.31	323.21	23.466
82.00	29.53	693.04	333.95	23.659
83.00	29.94	708.78	344.70	23.850
84.00	30.35	724.53	355.46	24.039
85.00	30.76	740.29	366.23	24.225
86.00	31.17	756.07	377.03	24.410
87.00	31.58	771.85	387.84	24.592
88.00	31.99	787.66	398.68	24.773
89.00	32.40	803.48	409.53	24.952
90.00	32.81	819.33	420.42	25.129
91.00	33.22	835.20	431.33	25.304
92.00	33.62	851.08	442.28	25.478
93.00	34.03	867.00	453.26	25.650
94.00	34.43	882.94	464.27	25.820
95.00	34.84	898.90	475.31	25.989
96.00	35.24	914.89	486.39	26.157
97.00	35.64	930.91	497.51	26.323
98.00	36.05	946.96	508.66	26.487
99.00	36.45	963.03	519.85	26.650
100.00	36.85	979.13	531.08	26.812

140.00 ATMOSPHERE ISOBAR

TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)
20.00	12.14	-112.62	-284.86	6.077
21.00	12.23	-105.25	-278.69	6.439
22.00	12.31	-97.63	-272.33	6.790
23.00	12.41	-89.73	-265.73	7.144
24.00	12.50	-81.52	-258.88	7.495
25.00	12.60	-73.00	-251.76	7.841
26.00	12.71	-64.14	-244.37	8.188
27.00	12.81	-54.94	-236.71	8.534
28.00	12.92	-45.41	-228.76	8.883
29.00	13.04	-35.53	-220.52	9.227
30.00	13.16	-25.39	-212.08	9.571
31.00	13.29	-14.89	-203.35	9.916
32.00	13.41	-4.15	-194.44	10.260
33.00	13.55	7.16	-185.01	10.610
34.00	13.68	18.53	-175.56	10.952
35.00	13.82	30.29	-165.81	11.292
36.00	13.97	42.31	-155.88	11.629
37.00	14.12	54.53	-145.83	11.961
38.00	14.28	66.80	-135.81	12.288
39.00	14.45	79.09	-125.84	12.607
40.00	14.62	91.07	-116.27	12.911
41.00	14.79	102.87	-106.96	13.202
42.00	14.97	114.60	-97.79	13.485
43.00	15.16	126.35	-88.69	13.761
44.00	15.35	138.18	-79.60	14.033
45.00	15.55	150.12	-70.48	14.302
46.00	15.76	162.21	-61.30	14.567
47.00	15.97	174.47	-52.03	14.831
48.00	16.18	186.92	-42.66	15.093
49.00	16.41	199.57	-33.18	15.354
50.00	16.64	212.41	-23.59	15.613
51.00	16.87	225.45	-13.89	15.871
52.00	17.11	238.68	-4.08	16.128
53.00	17.36	252.11	5.83	16.384
54.00	17.61	265.71	15.84	16.639
55.00	17.87	279.50	25.95	16.891
56.00	18.14	293.44	36.14	17.143
57.00	18.41	307.55	46.41	17.392
58.00	18.68	321.80	56.75	17.640
59.00	18.97	336.19	67.15	17.886
60.00	19.25	350.71	77.61	18.130
61.00	19.54	365.34	88.12	18.372
62.00	19.84	380.08	98.67	18.612
63.00	20.14	394.92	109.25	18.849
64.00	20.44	409.85	119.87	19.084
65.00	20.75	424.86	130.51	19.317
66.00	21.06	439.94	141.17	19.547
67.00	21.38	455.09	151.85	19.775
68.00	21.69	470.30	162.55	20.000
69.00	22.02	485.56	173.26	20.223
70.00	22.34	500.88	183.97	20.443
71.00	22.67	516.23	194.70	20.661
72.00	22.99	531.63	205.43	20.877
73.00	23.33	547.06	216.17	21.089
74.00	23.66	562.52	226.92	21.300
75.00	23.99	578.02	237.68	21.508
76.00	24.33	593.55	248.44	21.714
77.00	24.67	609.10	259.21	21.917
78.00	25.00	624.68	269.99	22.118
79.00	25.34	640.28	280.78	22.317
80.00	25.68	655.91	291.58	22.513
81.00	26.02	671.57	302.39	22.708
82.00	26.37	687.25	313.23	22.900
83.00	26.71	702.95	324.08	23.091
84.00	27.05	718.68	334.95	23.279
85.00	27.39	734.44	345.84	23.465
86.00	27.74	750.22	356.75	23.650
87.00	28.08	766.04	367.69	23.833
88.00	28.42	781.87	378.66	24.014
89.00	28.77	797.74	389.65	24.193
90.00	29.11	813.64	400.68	24.371
91.00	29.46	829.57	411.73	24.547
92.00	29.80	845.53	422.83	24.721
93.00	30.14	861.52	433.95	24.894
94.00	30.48	877.55	445.11	25.065
95.00	30.83	893.60	456.31	25.235
96.00	31.17	909.69	467.54	25.404
97.00	31.51	925.81	478.81	25.571
98.00	31.85	941.97	490.11	25.737
99.00	32.19	958.15	501.46	25.901
100.00	32.54	974.37	512.84	26.064

160.00 ATMOSPHERE ISOBAR

TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)
20.00	11.99	-91.42	-285.77	5.914
21.00	12.07	-84.18	-279.80	6.270
22.00	12.15	-76.70	-273.64	6.615
23.00	12.23	-68.95	-267.27	6.962
24.00	12.32	-60.92	-260.65	7.306
25.00	12.41	-52.57	-253.78	7.645
26.00	12.51	-43.91	-246.65	7.984
27.00	12.60	-34.91	-239.25	8.323
28.00	12.71	-25.59	-231.57	8.663
29.00	12.81	-15.93	-223.61	8.999
30.00	12.92	-6.02	-215.46	9.336
31.00	13.03	4.23	-207.03	9.672
32.00	13.15	14.70	-198.43	10.008
33.00	13.26	25.77	-189.23	10.351
34.00	13.38	36.83	-180.15	10.683
35.00	13.51	48.25	-170.77	11.014
36.00	13.64	59.94	-161.20	11.341
37.00	13.77	71.81	-151.51	11.664
38.00	13.91	83.73	-141.85	11.982
39.00	14.06	95.64	-132.28	12.291
40.00	14.21	107.21	-123.11	12.584
41.00	14.36	118.60	-114.20	12.866
42.00	14.52	129.90	-105.45	13.138
43.00	14.68	141.21	-96.76	13.404
44.00	14.84	152.57	-88.09	13.665
45.00	15.02	164.04	-79.39	13.923
46.00	15.19	175.65	-70.63	14.178
47.00	15.37	187.41	-61.79	14.431
48.00	15.56	199.35	-52.84	14.683
49.00	15.75	211.48	-43.79	14.933
50.00	15.94	223.79	-34.62	15.181
51.00	16.14	236.28	-25.34	15.429
52.00	16.34	248.97	-15.94	15.675
53.00	16.55	261.84	-6.43	15.920
54.00	16.76	274.89	3.18	16.164
55.00	16.98	288.12	12.89	16.407
56.00	17.20	301.51	22.70	16.648
57.00	17.42	315.06	32.59	16.888
58.00	17.65	328.76	42.58	17.126
59.00	17.89	342.61	52.63	17.363
60.00	18.12	356.59	62.76	17.598
61.00	18.37	370.70	72.96	17.831
62.00	18.61	384.93	83.21	18.063
63.00	18.86	399.27	93.52	18.292
64.00	19.11	413.72	103.88	18.520
65.00	19.37	428.27	114.27	18.745
66.00	19.63	442.91	124.72	18.969
67.00	19.89	457.64	135.19	19.190
68.00	20.15	472.44	145.70	19.409
69.00	20.42	487.32	156.24	19.627
70.00	20.69	502.27	166.81	19.842
71.00	20.96	517.29	177.41	20.055
72.00	21.24	532.36	188.02	20.266
73.00	21.52	547.50	198.67	20.474
74.00	21.80	562.69	209.33	20.681
75.00	22.08	577.93	220.02	20.886
76.00	22.36	593.22	230.73	21.088
77.00	22.64	608.55	241.46	21.289
78.00	22.93	623.94	252.22	21.487
79.00	23.22	639.37	263.00	21.684
80.00	23.50	654.83	273.80	21.878
81.00	23.79	670.35	284.62	22.071
82.00	24.08	685.90	295.48	22.262
83.00	24.37	701.49	306.36	22.451
84.00	24.66	717.13	317.27	22.638
85.00	24.96	732.80	328.21	22.824
86.00	25.25	748.52	339.17	23.007
87.00	25.54	764.27	350.17	23.189
88.00	25.84	780.07	361.20	23.370
89.00	26.13	795.91	372.28	23.549
90.00	26.43	811.78	383.38	23.726
91.00	26.72	827.70	394.52	23.902
92.00	27.01	843.66	405.69	24.077
93.00	27.31	859.66	416.91	24.250
94.00	27.60	875.69	428.17	24.421
95.00	27.90	891.77	439.46	24.591
96.00	28.20	907.89	450.79	24.760
97.00	28.49	924.05	462.16	24.927
98.00	28.79	940.24	473.57	25.094
99.00	29.08	956.47	485.02	25.258
100.00	29.38	972.74	496.51	25.422

180.00 ATMOSPHERE ISOBAR

TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)
20.00	11.85	-70.30	-286.37	5.763
21.00	11.92	-63.16	-280.57	6.114
22.00	12.00	-55.80	-274.59	6.453
23.00	12.07	-48.19	-268.41	6.794
24.00	12.16	-40.30	-262.00	7.132
25.00	12.24	-32.12	-255.35	7.464
26.00	12.33	-23.61	-248.44	7.796
27.00	12.42	-14.79	-241.26	8.129
28.00	12.51	-5.65	-233.81	8.463
29.00	12.61	3.82	-226.09	8.793
30.00	12.71	13.54	-218.19	9.123
31.00	12.81	23.57	-210.02	9.452
32.00	12.91	33.82	-201.68	9.781
33.00	13.02	44.69	-192.69	10.118
34.00	13.13	55.48	-183.91	10.442
35.00	13.24	66.63	-174.84	10.765
36.00	13.36	78.04	-165.57	11.085
37.00	13.48	89.64	-156.17	11.400
38.00	13.60	101.29	-146.81	11.711
39.00	13.73	112.88	-137.56	12.012
40.00	13.86	124.14	-128.72	12.297
41.00	14.00	135.19	-120.14	12.570
42.00	14.14	146.16	-111.72	12.834
43.00	14.28	157.12	-103.37	13.092
44.00	14.43	168.13	-95.03	13.345
45.00	14.58	179.23	-86.67	13.595
46.00	14.73	190.46	-78.24	13.841
47.00	14.89	201.84	-69.73	14.086
48.00	15.05	213.39	-61.12	14.329
49.00	15.22	225.11	-52.41	14.571
50.00	15.38	237.01	-43.58	14.811
51.00	15.56	249.09	-34.63	15.051
52.00	15.73	261.36	-25.57	15.289
53.00	15.91	273.80	-16.39	15.526
54.00	16.09	286.42	-7.10	15.762
55.00	16.28	299.21	2.29	15.996
56.00	16.47	312.16	11.79	16.230
57.00	16.66	325.28	21.38	16.462
58.00	16.86	338.54	31.06	16.693
59.00	17.06	351.96	40.83	16.922
60.00	17.26	365.51	50.68	17.150
61.00	17.47	379.19	60.60	17.376
62.00	17.68	393.00	70.60	17.600
63.00	17.89	406.94	80.65	17.823
64.00	18.11	420.98	90.77	18.044
65.00	18.32	435.13	100.95	18.264
66.00	18.54	449.39	111.17	18.481
67.00	18.77	463.74	121.45	18.697
68.00	18.99	478.19	131.78	18.911
69.00	19.22	492.72	142.14	19.123
70.00	19.45	507.33	152.55	19.334
71.00	19.69	522.03	163.00	19.542
72.00	19.92	536.79	173.48	19.749
73.00	20.16	551.64	184.00	19.953
74.00	20.40	566.55	194.56	20.156
75.00	20.64	581.53	205.15	20.357
76.00	20.88	596.57	215.77	20.557
77.00	21.12	611.68	226.43	20.754
78.00	21.37	626.84	237.12	20.950
79.00	21.61	642.06	247.85	21.144
80.00	21.86	657.34	258.60	21.336
81.00	22.11	672.68	269.40	21.526
82.00	22.36	688.07	280.23	21.715
83.00	22.61	703.51	291.09	21.902
84.00	22.86	719.01	302.00	22.088
85.00	23.12	734.56	312.93	22.272
86.00	23.37	750.17	323.91	22.455
87.00	23.63	765.82	334.93	22.636
88.00	23.88	781.53	345.98	22.815
89.00	24.14	797.28	357.08	22.993
90.00	24.39	813.09	368.21	23.170
91.00	24.65	828.95	379.39	23.345
92.00	24.91	844.85	390.61	23.519
93.00	25.16	860.81	401.88	23.691
94.00	25.42	876.81	413.18	23.862
95.00	25.68	892.86	424.53	24.032
96.00	25.94	908.96	435.92	24.201
97.00	26.19	925.10	447.36	24.368
98.00	26.45	941.29	458.83	24.534
99.00	26.71	957.52	470.35	24.699
100.00	26.97	973.80	481.91	24.863

200.00 ATMOSPHERE ISO8AR

TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)
20.00	11.72	-49.26	-286.72	5.621
21.00	11.79	-42.20	-281.05	5.968
22.00	11.86	-34.95	-275.23	6.303
23.00	11.93	-27.46	-269.22	6.638
24.00	12.01	-19.70	-262.99	6.970
25.00	12.08	-11.65	-256.53	7.297
26.00	12.16	-3.30	-249.81	7.624
27.00	12.25	5.38	-242.83	7.951
28.00	12.33	14.36	-235.59	8.279
29.00	12.42	23.67	-228.08	8.603
30.00	12.51	33.22	-220.39	8.927
31.00	12.61	43.08	-212.43	9.251
32.00	12.71	53.14	-204.33	9.573
33.00	12.80	63.81	-195.55	9.904
34.00	12.90	74.37	-187.02	10.222
35.00	13.00	85.29	-178.21	10.539
36.00	13.11	96.47	-169.20	10.852
37.00	13.22	107.86	-160.05	11.162
38.00	13.33	119.29	-150.93	11.466
39.00	13.45	130.62	-141.96	11.761
40.00	13.57	141.61	-133.39	12.039
41.00	13.69	152.39	-125.08	12.305
42.00	13.82	163.09	-116.94	12.563
43.00	13.95	173.77	-108.86	12.814
44.00	14.08	184.49	-100.81	13.061
45.00	14.21	195.30	-92.72	13.304
46.00	14.35	206.23	-84.57	13.544
47.00	14.49	217.30	-76.34	13.782
48.00	14.63	228.54	-68.00	14.018
49.00	14.78	239.94	-59.56	14.254
50.00	14.93	251.51	-51.01	14.487
51.00	15.08	263.27	-42.33	14.720
52.00	15.24	275.19	-33.54	14.952
53.00	15.39	287.30	-24.64	15.182
54.00	15.55	299.57	-15.62	15.412
55.00	15.72	312.01	-6.49	15.640
56.00	15.88	324.62	2.75	15.867
57.00	16.05	337.38	12.08	16.093
58.00	16.22	350.29	21.52	16.318
59.00	16.40	363.35	31.04	16.541
60.00	16.58	376.55	40.65	16.763
61.00	16.76	389.89	50.34	16.983
62.00	16.94	403.35	60.11	17.202
63.00	17.12	416.94	69.94	17.419
64.00	17.31	430.64	79.85	17.635
65.00	17.50	444.46	89.83	17.849
66.00	17.69	458.38	99.86	18.062
67.00	17.89	472.41	109.95	18.273
68.00	18.08	486.54	120.10	18.482
69.00	18.28	500.77	130.30	18.690
70.00	18.48	515.08	140.55	18.896
71.00	18.68	529.49	150.85	19.100
72.00	18.89	543.97	161.20	19.303
73.00	19.10	558.55	171.59	19.504
74.00	19.30	573.20	182.02	19.703
75.00	19.51	587.93	192.51	19.901
76.00	19.72	602.73	203.03	20.097
77.00	19.94	617.60	213.59	20.291
78.00	20.15	632.55	224.20	20.484
79.00	20.37	647.57	234.85	20.676
80.00	20.58	662.65	245.55	20.865
81.00	20.80	677.80	256.28	21.054
82.00	21.02	693.02	267.06	21.240
83.00	21.24	708.30	277.88	21.425
84.00	21.46	723.64	288.75	21.609
85.00	21.68	739.05	299.66	21.791
86.00	21.90	754.51	310.62	21.972
87.00	22.13	770.04	321.62	22.152
88.00	22.35	785.63	332.66	22.330
89.00	22.58	801.28	343.75	22.507
90.00	22.80	816.99	354.90	22.682
91.00	23.03	832.75	366.08	22.857
92.00	23.26	848.58	377.31	23.030
93.00	23.48	864.46	388.59	23.201
94.00	23.71	880.40	399.92	23.372
95.00	23.94	896.39	411.30	23.541
96.00	24.17	912.43	422.72	23.709
97.00	24.39	928.53	434.19	23.876
98.00	24.62	944.68	445.70	24.041
99.00	24.85	960.88	457.25	24.206
100.00	25.08	977.13	468.85	24.369

220.00 ATMOSPHERE ISO8AR

TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)
20.00	11.60	-28.31	-286.83	5.488
21.00	11.66	-21.32	-281.28	5.831
22.00	11.73	-14.16	-275.60	6.161
23.00	11.80	-6.77	-269.75	6.492
24.00	11.87	.87	-263.68	6.819
25.00	11.94	8.79	-257.39	7.141
26.00	12.02	17.02	-250.84	7.463
27.00	12.09	25.56	-244.04	7.785
28.00	12.17	34.41	-236.98	8.108
29.00	12.26	43.58	-229.66	8.427
30.00	12.34	52.97	-222.15	8.746
31.00	12.43	62.68	-214.38	9.065
32.00	12.52	72.58	-206.48	9.382
33.00	12.60	83.05	-197.91	9.708
34.00	12.70	93.42	-189.61	10.020
35.00	12.79	104.15	-181.03	10.331
36.00	12.89	115.14	-172.24	10.639
37.00	12.99	126.34	-163.30	10.943
38.00	13.10	137.58	-154.38	11.243
39.00	13.20	148.70	-145.65	11.532
40.00	13.31	159.46	-137.31	11.804
41.00	13.43	170.03	-129.24	12.065
42.00	13.54	180.49	-121.33	12.317
43.00	13.66	190.94	-113.49	12.563
44.00	13.78	201.43	-105.66	12.804
45.00	13.90	211.99	-97.81	13.042
46.00	14.02	222.68	-89.89	13.277
47.00	14.15	233.50	-81.89	13.509
48.00	14.28	244.48	-73.79	13.740
49.00	14.41	255.62	-65.58	13.970
50.00	14.54	266.93	-57.26	14.199
51.00	14.68	278.41	-48.81	14.426
52.00	14.82	290.06	-40.25	14.652
53.00	14.96	301.89	-31.57	14.878
54.00	15.10	313.88	-22.78	15.102
55.00	15.25	326.04	-13.87	15.325
56.00	15.40	338.36	-4.85	15.547
57.00	15.55	350.83	4.26	15.767
58.00	15.70	363.45	13.49	15.987
59.00	15.85	376.22	22.80	16.205
60.00	16.01	389.13	32.20	16.422
61.00	16.17	402.17	41.69	16.638
62.00	16.33	415.34	51.26	16.852
63.00	16.50	428.64	60.91	17.065
64.00	16.66	442.06	70.63	17.276
65.00	16.83	455.59	80.42	17.486
66.00	17.00	469.23	90.28	17.694
67.00	17.17	482.98	100.21	17.901
68.00	17.35	496.84	110.19	18.106
69.00	17.52	510.80	120.24	18.310
70.00	17.70	524.85	130.34	18.512
71.00	17.88	539.00	140.50	18.713
72.00	18.06	553.23	150.71	18.912
73.00	18.24	567.56	160.98	19.110
74.00	18.42	581.97	171.29	19.306
75.00	18.61	596.47	181.66	19.500
76.00	18.80	611.05	192.08	19.693
77.00	18.98	625.71	202.55	19.885
78.00	19.17	640.45	213.07	20.075
79.00	19.36	655.26	223.63	20.264
80.00	19.55	670.16	234.25	20.451
81.00	19.75	685.12	244.91	20.637
82.00	19.94	700.16	255.63	20.822
83.00	20.14	715.27	266.40	21.005
84.00	20.33	730.46	277.21	21.187
85.00	20.53	745.71	288.07	21.367
86.00	20.73	761.04	298.99	21.546
87.00	20.93	776.43	309.95	21.724
88.00	21.13	791.89	320.97	21.901
89.00	21.33	807.42	332.04	22.077
90.00	21.53	823.01	343.16	22.251
91.00	21.73	838.67	354.33	22.424
92.00	21.93	854.40	365.56	22.596
93.00	22.13	870.19	376.83	22.766
94.00	22.33	886.04	388.16	22.936
95.00	22.54	901.95	399.54	23.104
96.00	22.74	917.93	410.97	23.272
97.00	22.95	933.96	422.44	23.438
98.00	23.15	950.04	433.97	23.603
99.00	23.36	966.19	445.54	23.767
100.00	23.56	982.38	457.16	23.929

240.00 ATMOSPHERE ISOBAR

TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)
21.00	11.55	-.51	-281.30	5.702
22.00	11.61	6.56	-275.75	6.029
23.00	11.67	13.85	-270.03	6.355
24.00	11.74	21.39	-264.12	6.678
25.00	11.81	29.21	-257.97	6.995
26.00	11.88	37.32	-251.58	7.312
27.00	11.95	45.74	-244.94	7.630
28.00	12.03	54.47	-238.04	7.949
29.00	12.11	63.50	-230.87	8.263
30.00	12.18	72.78	-223.53	8.578
31.00	12.27	82.34	-215.94	8.892
32.00	12.35	92.09	-208.22	9.204
33.00	12.43	102.38	-199.88	9.525
34.00	12.52	112.59	-191.77	9.832
35.00	12.60	123.14	-183.39	10.138
36.00	12.70	133.96	-174.79	10.442
37.00	12.79	145.01	-166.03	10.742
38.00	12.89	156.10	-157.28	11.038
39.00	12.99	167.03	-148.76	11.321
40.00	13.09	177.61	-140.63	11.589
41.00	13.19	187.98	-132.76	11.845
42.00	13.29	198.25	-125.05	12.093
43.00	13.40	208.50	-117.41	12.334
44.00	13.51	218.79	-109.79	12.571
45.00	13.62	229.15	-102.13	12.804
46.00	13.74	239.63	-94.42	13.034
47.00	13.85	250.24	-86.62	13.262
48.00	13.97	261.00	-78.71	13.489
49.00	14.09	271.93	-70.70	13.714
50.00	14.21	283.01	-62.58	13.938
51.00	14.34	294.27	-54.33	14.161
52.00	14.46	305.70	-45.96	14.383
53.00	14.59	317.29	-37.47	14.603
54.00	14.72	329.05	-28.87	14.823
55.00	14.85	340.97	-20.15	15.042
56.00	14.98	353.05	-11.33	15.260
57.00	15.12	365.28	-2.39	15.476
58.00	15.26	377.66	6.64	15.691
59.00	15.40	390.18	15.77	15.905
60.00	15.54	402.84	25.00	16.118
61.00	15.68	415.64	34.31	16.330
62.00	15.83	428.57	43.71	16.540
63.00	15.97	441.62	53.19	16.749
64.00	16.12	454.79	62.75	16.956
65.00	16.27	468.08	72.38	17.162
66.00	16.42	481.48	82.09	17.367
67.00	16.58	494.99	91.86	17.570
68.00	16.73	508.61	101.70	17.772
69.00	16.89	522.33	111.60	17.972
70.00	17.05	536.15	121.57	18.171
71.00	17.21	550.07	131.60	18.368
72.00	17.37	564.09	141.69	18.564
73.00	17.53	578.20	151.83	18.759
74.00	17.70	592.40	162.03	18.952
75.00	17.86	606.68	172.29	19.144
76.00	18.03	621.06	182.61	19.334
77.00	18.20	635.52	192.97	19.523
78.00	18.37	650.06	203.40	19.711
79.00	18.54	664.69	213.88	19.897
80.00	18.71	679.40	224.41	20.082
81.00	18.88	694.19	235.00	20.266
82.00	19.06	709.06	245.65	20.449
83.00	19.23	724.01	256.35	20.630
84.00	19.41	739.04	267.10	20.810
85.00	19.58	754.14	277.91	20.989
86.00	19.76	769.32	288.77	21.166
87.00	19.94	784.58	299.69	21.342
88.00	20.12	799.91	310.67	21.518
89.00	20.30	815.31	321.70	21.692
90.00	20.48	830.78	332.79	21.865
91.00	20.66	846.33	343.93	22.036
92.00	20.84	861.95	355.13	22.207
93.00	21.02	877.64	366.39	22.377
94.00	21.21	893.39	377.70	22.545
95.00	21.39	909.21	389.07	22.713
96.00	21.57	925.10	400.48	22.879
97.00	21.76	941.05	411.96	23.044
98.00	21.94	957.06	423.48	23.209
99.00	22.13	973.14	435.06	23.372
100.00	22.31	989.27	446.68	23.534

260.00 ATMOSPHERE ISOBAR

TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)
21.00	11.44	20.20	-281.14	5.580
22.00	11.50	27.21	-275.70	5.903
23.00	11.56	34.42	-270.10	6.226
24.00	11.62	41.87	-264.32	6.545
25.00	11.69	49.58	-258.31	6.858
26.00	11.75	57.59	-252.06	7.171
27.00	11.82	65.90	-245.56	7.484
28.00	11.89	74.52	-238.81	7.799
29.00	11.97	83.44	-231.79	8.109
30.00	12.04	92.59	-224.60	8.421
31.00	12.12	102.04	-217.16	8.730
32.00	12.19	111.66	-209.60	9.039
33.00	12.27	121.75	-201.49	9.354
34.00	12.35	131.82	-193.56	9.657
35.00	12.43	142.22	-185.35	9.959
36.00	12.52	152.90	-176.93	10.258
37.00	12.61	163.81	-168.33	10.555
38.00	12.70	174.77	-159.73	10.847
39.00	12.79	185.54	-151.39	11.127
40.00	12.88	195.95	-143.44	11.390
41.00	12.98	206.16	-135.75	11.642
42.00	13.08	216.26	-128.22	11.886
43.00	13.18	226.34	-120.76	12.123
44.00	13.28	236.46	-113.31	12.355
45.00	13.38	246.65	-105.83	12.585
46.00	13.48	256.95	-98.29	12.811
47.00	13.59	267.39	-90.66	13.035
48.00	13.70	277.97	-82.93	13.258
49.00	13.81	288.70	-75.09	13.479
50.00	13.92	299.61	-67.13	13.700
51.00	14.03	310.67	-59.05	13.919
52.00	14.15	321.90	-50.85	14.137
53.00	14.27	333.30	-42.53	14.354
54.00	14.38	344.87	-34.10	14.570
55.00	14.51	356.59	-25.54	14.785
56.00	14.63	368.46	-16.88	14.999
57.00	14.75	380.48	-8.11	15.212
58.00	14.88	392.66	.77	15.424
59.00	15.00	404.97	9.74	15.634
60.00	15.13	417.43	18.81	15.844
61.00	15.26	430.01	27.97	16.052
62.00	15.39	442.73	37.22	16.258
63.00	15.53	455.57	46.55	16.464
64.00	15.66	468.53	55.96	16.668
65.00	15.80	481.61	65.45	16.871
66.00	15.93	494.80	75.01	17.072
67.00	16.07	508.10	84.65	17.272
68.00	16.21	521.52	94.36	17.471
69.00	16.36	535.03	104.14	17.668
70.00	16.50	548.65	113.98	17.864
71.00	16.64	562.37	123.88	18.059
72.00	16.79	576.19	133.85	18.252
73.00	16.94	590.10	143.89	18.444
74.00	17.09	604.11	153.98	18.634
75.00	17.24	618.20	164.13	18.824
76.00	17.39	632.39	174.35	19.012
77.00	17.54	646.67	184.62	19.198
78.00	17.69	661.04	194.96	19.384
79.00	17.85	675.49	205.35	19.568
80.00	18.00	690.04	215.80	19.751
81.00	18.16	704.66	226.31	19.932
82.00	18.31	719.37	236.89	20.113
83.00	18.47	734.17	247.51	20.292
84.00	18.63	749.04	258.20	20.470
85.00	18.79	764.00	268.95	20.647
86.00	18.95	779.04	279.76	20.823
87.00	19.11	794.16	290.63	20.998
88.00	19.28	809.36	301.55	21.172
89.00	19.44	824.64	312.54	21.344
90.00	19.60	839.99	323.59	21.516
91.00	19.77	855.42	334.70	21.686
92.00	19.93	870.93	345.86	21.856
93.00	20.10	886.51	357.09	22.024
94.00	20.26	902.17	368.37	22.192
95.00	20.43	917.89	379.71	22.358
96.00	20.60	933.69	391.12	22.524
97.00	20.76	949.55	402.57	22.688
98.00	20.93	965.48	414.08	22.851
99.00	21.10	981.48	425.64	23.014
100.00	21.27	997.54	437.26	23.175

280.00 ATMOSPHERE ISO8AR

TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)
22.00	11.39	47.79	-275.47	5.784
23.00	11.45	54.92	-269.98	6.104
24.00	11.51	62.28	-264.32	6.418
25.00	11.57	69.90	-258.43	6.728
26.00	11.64	77.81	-252.32	7.037
27.00	11.70	86.03	-245.95	7.347
28.00	11.77	94.54	-239.33	7.658
29.00	11.84	103.36	-232.45	7.965
30.00	11.91	112.41	-225.39	8.272
31.00	11.98	121.75	-218.10	8.579
32.00	12.05	131.24	-210.68	8.883
33.00	12.12	141.16	-202.81	9.193
34.00	12.20	151.10	-195.03	9.492
35.00	12.28	161.36	-186.99	9.790
36.00	12.36	171.92	-178.72	10.086
37.00	12.44	182.72	-170.25	10.380
38.00	12.53	193.56	-161.79	10.669
39.00	12.61	204.18	-153.61	10.945
40.00	12.70	214.45	-145.83	11.205
41.00	12.79	224.51	-138.30	11.453
42.00	12.88	234.47	-130.93	11.693
43.00	12.97	244.40	-123.62	11.927
44.00	13.07	254.37	-116.32	12.156
45.00	13.16	264.41	-109.00	12.382
46.00	13.26	274.56	-101.61	12.605
47.00	13.36	284.84	-94.13	12.826
48.00	13.46	295.26	-86.55	13.045
49.00	13.56	305.85	-78.86	13.263
50.00	13.66	316.59	-71.06	13.480
51.00	13.77	327.49	-63.13	13.696
52.00	13.87	338.56	-55.07	13.911
53.00	13.98	349.79	-46.90	14.125
54.00	14.09	361.18	-38.61	14.338
55.00	14.20	372.72	-30.20	14.550
56.00	14.31	384.43	-21.68	14.761
57.00	14.43	396.28	-13.05	14.970
58.00	14.54	408.27	-4.32	15.179
59.00	14.66	420.41	4.51	15.387
60.00	14.78	432.68	13.45	15.593
61.00	14.90	445.09	22.47	15.798
62.00	15.02	457.62	31.59	16.002
63.00	15.14	470.28	40.79	16.204
64.00	15.26	483.06	50.07	16.405
65.00	15.39	495.95	59.43	16.605
66.00	15.51	508.97	68.87	16.804
67.00	15.64	522.09	78.39	17.001
68.00	15.77	535.32	87.97	17.197
69.00	15.90	548.65	97.63	17.392
70.00	16.03	562.09	107.36	17.585
71.00	16.16	575.63	117.16	17.777
72.00	16.29	589.27	127.02	17.968
73.00	16.43	603.01	136.95	18.158
74.00	16.56	616.84	146.94	18.346
75.00	16.70	630.77	157.00	18.533
76.00	16.84	644.79	167.12	18.719
77.00	16.98	658.91	177.30	18.903
78.00	17.11	673.11	187.54	19.086
79.00	17.26	687.41	197.85	19.269
80.00	17.40	701.79	208.23	19.449
81.00	17.54	716.27	218.66	19.629
82.00	17.68	730.83	229.16	19.808
83.00	17.83	745.48	239.72	19.986
84.00	17.97	760.21	250.34	20.162
85.00	18.12	775.03	261.02	20.337
86.00	18.26	789.94	271.77	20.512
87.00	18.41	804.93	282.58	20.685
88.00	18.56	820.00	293.46	20.857
89.00	18.71	835.16	304.40	21.028
90.00	18.86	850.39	315.40	21.199
91.00	19.01	865.71	326.46	21.368
92.00	19.16	881.11	337.59	21.536
93.00	19.31	896.58	348.78	21.704
94.00	19.46	912.14	360.03	21.870
95.00	19.61	927.76	371.34	22.035
96.00	19.76	943.47	382.71	22.200
97.00	19.92	959.24	394.15	22.363
98.00	20.07	975.09	405.63	22.526
99.00	20.23	991.00	417.17	22.687
100.00	20.38	1006.98	428.77	22.848

300.00 ATMOSPHERE ISO8AR

TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)
22.00	11.30	68.29	-275.08	5.671
23.00	11.35	75.35	-269.70	5.987
24.00	11.41	82.63	-264.14	6.299
25.00	11.47	90.17	-258.37	6.605
26.00	11.53	97.99	-252.37	6.911
27.00	11.59	106.11	-246.13	7.217
28.00	11.65	114.54	-239.63	7.525
29.00	11.72	123.26	-232.88	7.828
30.00	11.78	132.21	-225.94	8.132
31.00	11.85	141.45	-218.77	8.435
32.00	11.92	150.84	-211.50	8.736
33.00	11.99	160.57	-203.87	9.041
34.00	12.06	170.39	-196.24	9.337
35.00	12.14	180.54	-188.34	9.631
36.00	12.21	190.98	-180.21	9.924
37.00	12.29	201.68	-171.87	10.215
38.00	12.37	212.43	-163.52	10.502
39.00	12.45	222.92	-155.49	10.774
40.00	12.53	233.06	-147.85	11.031
41.00	12.61	242.99	-140.47	11.276
42.00	12.70	252.83	-133.23	11.513
43.00	12.79	262.63	-126.07	11.744
44.00	12.88	272.46	-118.91	11.970
45.00	12.96	282.37	-111.72	12.193
46.00	13.06	292.39	-104.47	12.413
47.00	13.15	302.54	-97.13	12.631
48.00	13.24	312.83	-89.68	12.848
49.00	13.34	323.26	-82.13	13.063
50.00	13.43	333.87	-74.45	13.277
51.00	13.53	344.63	-66.66	13.490
52.00	13.63	355.55	-58.73	13.702
53.00	13.73	366.64	-50.69	13.913
54.00	13.83	377.88	-42.53	14.123
55.00	13.93	389.28	-34.25	14.333
56.00	14.04	400.83	-25.86	14.541
57.00	14.14	412.53	-17.35	14.748
58.00	14.25	424.37	-8.74	14.954
59.00	14.36	436.35	-.03	15.159
60.00	14.46	448.47	8.78	15.362
61.00	14.57	460.71	17.68	15.565
62.00	14.69	473.09	26.67	15.766
63.00	14.80	485.59	35.76	15.966
64.00	14.91	498.21	44.92	16.165
65.00	15.03	510.94	54.17	16.362
66.00	15.14	523.79	63.50	16.558
67.00	15.26	536.75	72.91	16.753
68.00	15.38	549.82	82.38	16.947
69.00	15.50	563.00	91.94	17.139
70.00	15.62	576.28	101.56	17.330
71.00	15.74	589.66	111.26	17.520
72.00	15.86	603.14	121.02	17.709
73.00	15.98	616.73	130.85	17.896
74.00	16.11	630.40	140.75	18.082
75.00	16.23	644.18	150.71	18.267
76.00	16.36	658.05	160.75	18.451
77.00	16.49	672.02	170.84	18.633
78.00	16.62	686.07	181.00	18.815
79.00	16.74	700.22	191.23	18.995
80.00	16.87	714.46	201.53	19.174
81.00	17.01	728.80	211.89	19.352
82.00	17.14	743.22	222.31	19.529
83.00	17.27	757.73	232.80	19.705
84.00	17.40	772.34	243.36	19.880
85.00	17.54	787.03	253.98	20.054
86.00	17.67	801.81	264.67	20.227
87.00	17.81	816.67	275.43	20.398
88.00	17.94	831.62	286.25	20.569
89.00	18.08	846.67	297.14	20.739
90.00	18.22	861.79	308.09	20.908
91.00	18.35	877.00	319.11	21.076
92.00	18.49	892.28	330.19	21.243
93.00	18.63	907.66	341.34	21.409
94.00	18.77	923.11	352.55	21.575
95.00	18.91	938.64	363.83	21.739
96.00	19.05	954.25	375.17	21.903
97.00	19.19	969.93	386.56	22.065
98.00	19.33	985.69	398.02	22.227
99.00	19.47	1001.52	409.54	22.387
100.00	19.62	1017.41	421.12	22.547

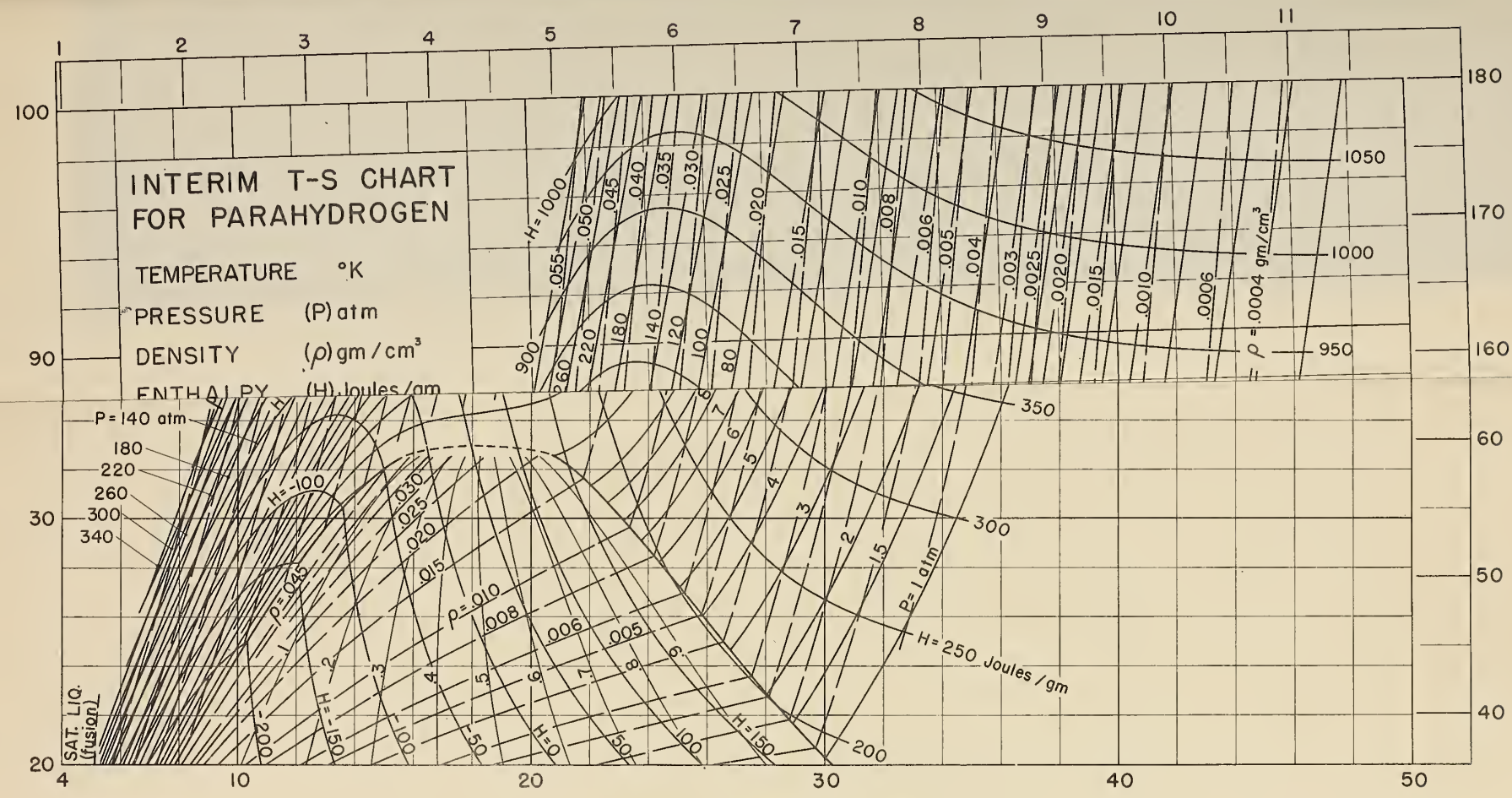
320.00 ATMOSPHERE ISOBAR

TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)
23.00	11.26	95.70	-269.26	5.876
24.00	11.31	102.91	-263.81	6.185
25.00	11.37	110.38	-258.15	6.488
26.00	11.42	118.12	-252.26	6.790
27.00	11.48	126.16	-246.12	7.093
28.00	11.54	134.49	-239.74	7.398
29.00	11.60	143.13	-233.10	7.698
30.00	11.67	151.99	-226.28	8.000
31.00	11.73	161.14	-219.23	8.300
32.00	11.80	170.42	-212.08	8.598
33.00	11.86	179.97	-204.71	8.896
34.00	11.93	189.69	-197.21	9.190
35.00	12.00	199.73	-189.44	9.481
36.00	12.07	210.08	-181.43	9.771
37.00	12.15	220.69	-173.20	10.060
38.00	12.22	231.35	-164.96	10.344
39.00	12.30	241.73	-157.07	10.613
40.00	12.38	251.75	-149.56	10.867
41.00	12.46	261.57	-142.31	11.110
42.00	12.54	271.29	-135.20	11.344
43.00	12.62	280.98	-128.16	11.572
44.00	12.70	290.70	-121.13	11.795
45.00	12.79	300.49	-114.06	12.015
46.00	12.87	310.39	-106.93	12.233
47.00	12.96	320.41	-99.71	12.449
48.00	13.05	330.58	-92.39	12.663
49.00	13.13	340.90	-84.95	12.876
50.00	13.22	351.38	-77.40	13.087
51.00	13.32	362.02	-69.71	13.298
52.00	13.41	372.82	-61.91	13.507
53.00	13.50	383.77	-53.99	13.716
54.00	13.60	394.89	-45.94	13.924
55.00	13.69	406.15	-37.77	14.131
56.00	13.79	417.57	-29.49	14.336
57.00	13.89	429.14	-21.10	14.541
58.00	13.99	440.85	-12.61	14.745
59.00	14.09	452.69	-4.00	14.947
60.00	14.19	464.67	4.69	15.149
61.00	14.29	476.78	13.49	15.349
62.00	14.39	489.01	22.38	15.548
63.00	14.50	501.37	31.35	15.745
64.00	14.60	513.85	40.41	15.942
65.00	14.71	526.45	49.56	16.137
66.00	14.82	539.15	58.79	16.331
67.00	14.92	551.97	68.09	16.524
68.00	15.03	564.90	77.47	16.715
69.00	15.14	577.94	86.93	16.906
70.00	15.25	591.07	96.46	17.095
71.00	15.37	604.31	106.06	17.283
72.00	15.48	617.65	115.73	17.469
73.00	15.59	631.10	125.47	17.655
74.00	15.71	644.64	135.28	17.839
75.00	15.83	658.27	145.16	18.022
76.00	15.94	672.01	155.11	18.204
77.00	16.06	685.84	165.13	18.384
78.00	16.18	699.76	175.21	18.564
79.00	16.30	713.78	185.36	18.743
80.00	16.42	727.89	195.59	18.920
81.00	16.54	742.09	205.87	19.097
82.00	16.66	756.39	216.23	19.272
83.00	16.78	770.78	226.66	19.446
84.00	16.90	785.26	237.14	19.620
85.00	17.03	799.83	247.71	19.792
86.00	17.15	814.49	258.34	19.964
87.00	17.28	829.24	269.04	20.134
88.00	17.40	844.08	279.80	20.304
89.00	17.53	859.00	290.64	20.473
90.00	17.66	874.02	301.54	20.640
91.00	17.78	889.12	312.51	20.807
92.00	17.91	904.30	323.55	20.973
93.00	18.04	919.58	334.65	21.138
94.00	18.17	934.93	345.82	21.302
95.00	18.30	950.37	357.06	21.466
96.00	18.43	965.88	368.36	21.628
97.00	18.56	981.47	379.73	21.790
98.00	18.69	997.15	391.16	21.951
99.00	18.82	1012.89	402.65	22.110
100.00	18.95	1028.71	414.19	22.269

340.00 ATMOSPHERE ISOBAR

TEMPERATURE (K)	SPECIFIC VOLUME (CC/GM)	ENTHALPY (J/GM)	INTERNAL ENERGY (J/GM)	ENTROPY (J/GM-K)
23.00	11.17	115.99	-268.69	5.770
24.00	11.22	123.13	-263.33	6.076
25.00	11.27	130.52	-257.77	6.376
26.00	11.33	138.18	-251.99	6.676
27.00	11.38	146.15	-245.95	6.976
28.00	11.44	154.40	-239.68	7.278
29.00	11.50	162.96	-233.15	7.575
30.00	11.56	171.74	-226.43	7.874
31.00	11.62	180.80	-219.49	8.171
32.00	11.68	189.99	-212.45	8.466
33.00	11.75	199.35	-205.35	8.759
34.00	11.81	208.98	-197.97	9.049
35.00	11.88	218.93	-190.33	9.338
36.00	11.95	229.18	-182.43	9.626
37.00	12.02	239.71	-174.30	9.912
38.00	12.09	250.31	-166.15	10.195
39.00	12.16	260.58	-158.38	10.461
40.00	12.23	270.50	-150.99	10.713
41.00	12.31	280.22	-143.86	10.953
42.00	12.39	289.83	-136.87	11.184
43.00	12.46	299.42	-129.94	11.410
44.00	12.54	309.03	-123.03	11.631
45.00	12.62	318.72	-116.07	11.849
46.00	12.70	328.52	-109.05	12.064
47.00	12.78	338.44	-101.94	12.277
48.00	12.87	348.50	-94.73	12.489
49.00	12.95	358.71	-87.40	12.700
50.00	13.03	369.08	-79.95	12.909
51.00	13.12	379.61	-72.37	13.118
52.00	13.21	390.30	-64.68	13.325
53.00	13.29	401.14	-56.85	13.532
54.00	13.38	412.14	-48.91	13.737
55.00	13.47	423.29	-40.85	13.942
56.00	13.56	434.59	-32.67	14.146
57.00	13.66	446.04	-24.38	14.348
58.00	13.75	457.63	-15.99	14.550
59.00	13.84	469.35	-7.49	14.750
60.00	13.94	481.21	1.12	14.949
61.00	14.03	493.20	9.81	15.147
62.00	14.13	505.31	18.60	15.344
63.00	14.23	517.54	27.48	15.540
64.00	14.32	529.90	36.45	15.735
65.00	14.42	542.37	45.50	15.928
66.00	14.52	554.95	54.63	16.120
67.00	14.62	567.64	63.85	16.311
68.00	14.73	580.44	73.14	16.501
69.00	14.83	593.35	82.50	16.689
70.00	14.93	606.36	91.95	16.876
71.00	15.04	619.47	101.46	17.062
72.00	15.14	632.69	111.05	17.247
73.00	15.25	646.01	120.71	17.431
74.00	15.35	659.42	130.44	17.613
75.00	15.46	672.93	140.24	17.795
76.00	15.57	686.54	150.11	17.975
77.00	15.68	700.24	160.05	18.154
78.00	15.79	714.05	170.07	18.332
79.00	15.90	727.94	180.15	18.509
80.00	16.01	741.93	190.30	18.685
81.00	16.12	756.02	200.52	18.860
82.00	16.24	770.19	210.81	19.034
83.00	16.35	784.47	221.17	19.207
84.00	16.47	798.83	231.60	19.379
85.00	16.58	813.29	242.10	19.550
86.00	16.70	827.84	252.67	19.720
87.00	16.81	842.48	263.31	19.890
88.00	16.93	857.21	274.02	20.058
89.00	17.05	872.03	284.80	20.225
90.00	17.16	886.95	295.66	20.392
91.00	17.28	901.94	306.58	20.558
92.00	17.40	917.04	317.57	20.723
93.00	17.52	932.21	328.64	20.887
94.00	17.64	947.47	339.77	21.050
95.00	17.76	962.81	350.96	21.212
96.00	17.88	978.24	362.23	21.374
97.00	18.00	993.75	373.56	21.535
98.00	18.12	1009.33	384.95	21.694
99.00	18.25	1025.00	396.40	21.853
100.00	18.37	1040.73	407.92	22.012

ENTROPY, Cal/gm°K or BTU/lb°R



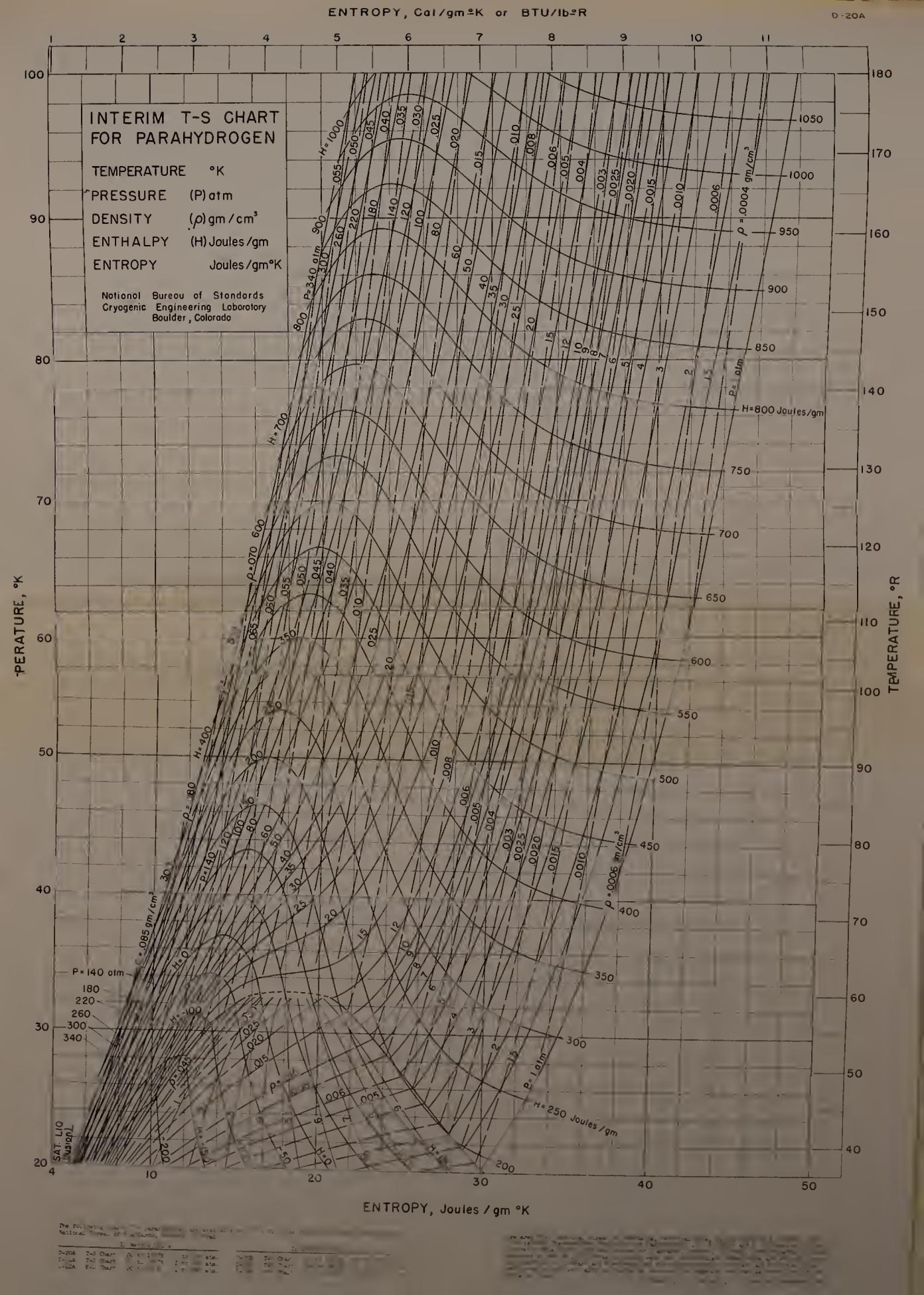
ENTROPY, Joules / gm °K

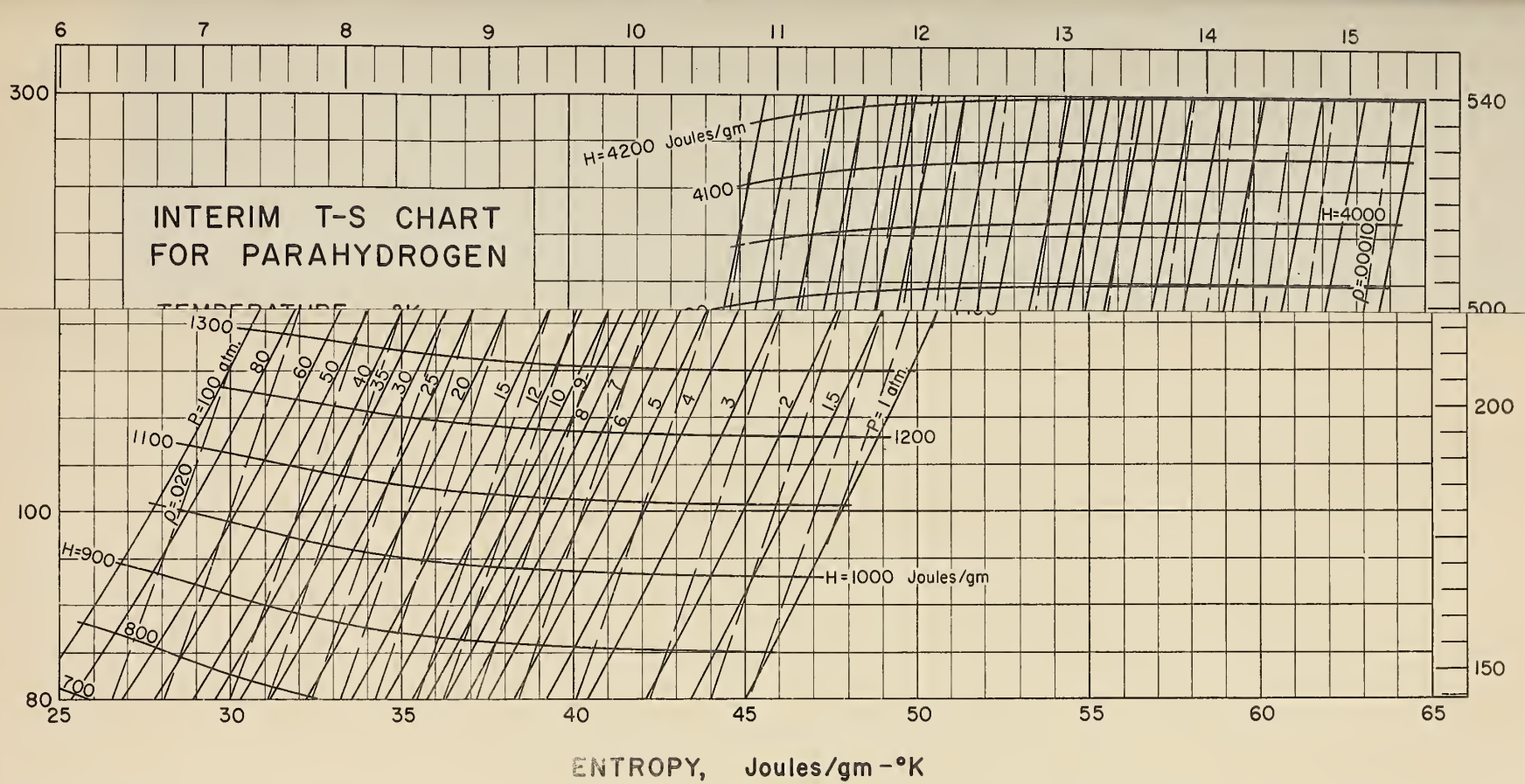
The following charts for parahydrogen are available in 17" x 22" size from the Cryogenic Data Center, National Bureau of Standards, Boulder, Colorado:

	In Metric Units				In British Units		
D-20A	T-S Chart	20 to 100°K	1 to 340 atm.	D-20B	T-S Chart	36 to 180°R	10 to 5000 psia.
D-21A	T-S Chart	80 to 300°K	1 to 100 atm.	D-21B	T-S Chart	140 to 540°R	10 to 1500 psia.
D-22A	H-S Chart	20 to 60°K	1 to 340 atm.	D-22B	H-S Chart	36 to 100°R	10 to 500 psia.

Prepared for: National Bureau of Standards, Technical Note, TN 130 (PB161631) December 1961, "Provisional Thermodynamic Functions for Parahydrogen", H. M. Roder and R. D. Goodwin; by the Cryogenic Data Center, National Bureau of Standards, Boulder, Colorado, from property functions reported in NBS TN 130. These functions were used to calculate temperature and entropy for all intersections of isobars and isenthalps and for intersections of isobars and isometric lines. Additional points were also calculated as necessary to complete the precise definition of the property lines.

R. B. Stewart, R. D. McCarty, R. D. Weekley (December 1961)


ENTROPY, Cal/gm°K or BTU/lb°R
INTERIM T-S CHART FOR PARAHYDROGEN
TEMPERATURE °K
PRESSURE (P) atm
DENSITY (ρ) gm/cm³
ENTHALPY (H) Joules/gm
ENTROPY Joules/gm°K
National Bureau of Standards
Cryogenic Engineering Laboratory
Boulder, Colorado
TEMPERATURE, °K
TEMPERATURE, °R
ENTROPY, Joules/gm °K
SAT. LIQ.
SAT. VAPOR
P = 140 atm
P = 340 atm
P = 1 atm
ρ = .0004 gm/cm³
ρ = .0006 gm/cm³
ρ = .085 gm/cm³
H = 800 Joules/gm
H = 250 Joules/gm



The following charts for parahydrogen are available in 17" x 22" size from the Cryogenic Data Center, National Bureau of Standards, Boulder, Colorado:

In Metric Units				In British Units			
D-20A	T-S Chart	20 to 100°K	1 to 340 atm.	D-20B	T-S Chart	36 to 180°R	10 to 5000 psia.
D-21A	T-S Chart	80 to 300°K	1 to 100 atm.	D-21B	T-S Chart	140 to 540°R	10 to 1500 psia.
D-22A	H-S Chart	20 to 60°K	1 to 340 atm.	D-22B	H-S Chart	36 to 100°R	10 to 5000 psia.

Prepared for: National Bureau of Standards, Technical Note, TN 130 (PB161631) December 1961, "Provisional Thermodynamic Functions for Parahydrogen", H. M. Roder and R. D. Goodwin; by the Cryogenic Data Center, National Bureau of Standards, Boulder, Colorado, from property functions reported in NBS TN 130. These functions were used to calculate temperature and entropy for all intersections of isobars and isenthalps and for intersections of isobars and isometric linss. Additional points were also calculated as necessary to complete the precise definition of the property lines.

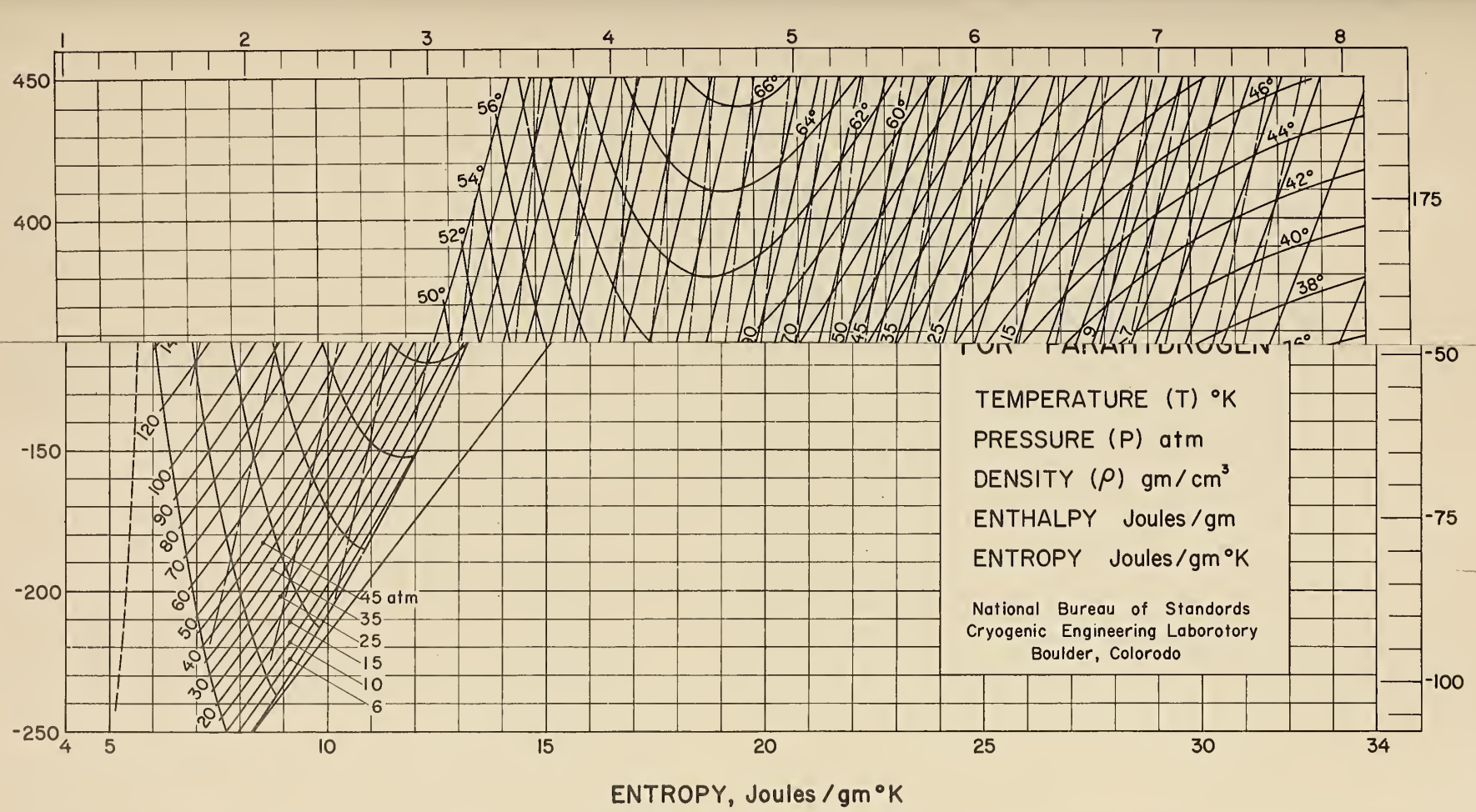
R. B. Stewart, R. D. McCarty, T. W. Griffith (December 1961)

The following charts for parahydrogen are available in 17" x 22" size from the Cryogenic Data Center, National Bureau of Standards, Boulder, Colorado:

In Metric Units				In British Units			
D-20A	T-S Chart	20 to 100°K	1 to 340 atm.	D-20B	T-S Chart	36 to 180°R	10 to 5000 psia.
D-21A	T-S Chart	80 to 300°K	1 to 100 atm.	D-21B	T-S Chart	140 to 540°R	10 to 1500 psia.
D-22A	H-S Chart	20 to 60°K	1 to 340 atm.	D-22B	H-S Chart	36 to 100°R	10 to 5000 psia.

Prepared for: National Bureau of Standards, Technical Note, TN 130 (PB161631) December 1961, "Provisional Thermodynamic Functions for Parahydrogen", H. M. Roder and R. D. Goodwin; by the Cryogenic Data Center, National Bureau of Standards, Boulder, Colorado, from property functions reported in NBS TN 130. These functions were used to calculate temperature and entropy for all intersections of isobars and isenthalps and for intersections of isobars and isometric lines. Additional points were also calculated as necessary to complete the precise definition of the property lines.

R. B. Stewart, R. D. McCarty, T. W. Griffith (December 1961)



The following charts for parahydrogen are available in 17" x 22" size from the Cryogenic Data Center, National Bureau of Standards, Boulder, Colorado:

In Metric Units				In British Units			
D-20A	T-S Chart	20 to 100°K	1 to 340 atm.	D-20B	T-S Chart	36 to 180°R	10 to 5000 psia.
D-21A	T-S Chart	80 to 300°K	1 to 100 atm.	D-21B	T-S Chart	140 to 540°R	10 to 1500 psia.
D-22A	H-S Chart	20 to 60°K	1 to 340 atm.	D-22B	H-S Chart	36 to 100 °R	10 to 5000 psia.

Prepared for: National Bureau of Standards, Technical Note, TN 130 (PB161631) December 1961, "Provisional Thermodynamic Functions for Parahydrogen", H. M. Roder and R. D. Goodwin; by the Cryogenic Data Center, National Bureau of Standards, Boulder, Colorado, from property functions reported in NBS TN 130. These functions were used to calculate temperature and entropy for all intersections of isobars and isenthalps and for intersections of isobars and isometric lines. Additional points were also calculated as necessary to complete the precise definition of the property lines.

R. B. Stewart, R. D. McCarty, L. J. Ericks (December 1961)

The following charts for parahydrogen are available in 17" x 22" size from the Cryogenic Data Center, National Bureau of Standards, Boulder, Colorado:

	In Metric Units			In British Units		
D-20A	I-S Chart	20 to 100°K	1 to 340 atm.	D-20B	T-S Chart	36 to 180°R	10 to 5000 psia.
D-21A	I-S Chart	60 to 300°K	1 to 100 atm.	D-21B	T-S Chart	140 to 540°R	10 to 1500 psia.
D-22A	H-S Chart	20 to 80°K	1 to 340 atm.	D-22B	H-S Chart	35 to 160 °R	10 to 4000 psia.

Prepared for: National Bureau of Standards, Technical Note, TN 130 (PB161611) December 1961, "Provisional Thermodynamic Functions for Parahydrogen", H. M. Roder and R. D. Goodwin; by the Cryogenic Data Center, National Bureau of Standards, Boulder, Colorado, from property functions reported in NBS TN 130. These functions were used to calculate temperature and entropy for all intersections of isobars and isenthalps and for intersections of isobars and isometric lines. Additional points were also calculated as necessary to complete the precise definition of the property lines.

H. B. Stewart, R. D. McCarty, L. J. Ericks (December 1961)

SUPPLEMENT A (British units)

CONTENTS

Preface

At the request of the sponsor the tables and charts were recomputed in units commonly used in engineering applications. Changes in existing computer programs were held to a minimum. If the input to all programs is in those fractional metric units which correspond to the desired output, the entire computational procedure remains exactly as described in the Technical Note. Conversion of units is accomplished after all computations are completed and just prior to print-out. Conversion factors used and tables of adjustments are given below.

Conversion factors used

degree K	times 1.8	equals degree R
atm	14.696	psia
g/cm^3	62.428227	pounds/cu ft
cal/g	1.798823	BTU/pound
cal/g°K	0.999346	BTU/pound °R

Table 2A

Adjustments in entropy and enthalpy 56-66°R

	In entropy		In enthalpy	
T°R	A_1	B_1	A_2	$(B_2 \cdot T)$
56	0.00261	$+ 0.0160 \times 10^{-5}$	.1342	$+ .896 \times 10^{-5}$
58	0.03426	$+ 0.0187 \times 10^{-5}$	1.929	$+ 1.082 \times 10^{-5}$
60	0.09432	$- 0.2125 \times 10^{-5}$	5.919	-12.75×10^{-5}
62	0.0474	$- 0.1093 \times 10^{-5}$	3.021	$- 6.777 \times 10^{-5}$
64	0.0201	$- 0.0429 \times 10^{-5}$	1.262	$- 2.746 \times 10^{-5}$
66	0.00566	$- 0.0080 \times 10^{-5}$	.346	$- .528 \times 10^{-5}$

Table 3A

Adjustments in specific volume and enthalpy at 182°R

Pressure psia	Delta H BTU/pound	Delta V Cu Ft/pound
10.	.439	.02279
15.	.428	.01748
20.	.415	.01213
30.	.385	.00687
40.	.358	.00428
50.	.330	.00274
60.	.304	.00176
70.	.278	.00106
80.	.252	.00056
90.	.226	.00015
100.	.202	-.00021
120.	.151	-.00118
140.	.102	-.00222
160.	.048	-.00309
180.	-.002	-.00374
200.	-.049	-.00417
250.	-.159	-.00337
300.	-.257	-.00200
350.	-.340	-.00135
400.	-.419	-.00125
450.	-.504	-.00115
500.	-.596	-.00097
600.	-.720	-.00062
700.	-.741	-.00027
800.	-.820	+.00004
900.	-.916	.00033
1000.	-.837	.00051
1250.	-.828	.00078
1500.	-.831	.00091

10.00 PSIA ISOBAR

TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)
* 34.260	.2221	-115.02	-115.85	1.777
* 34.260	16.8879	78.51	47.26	7.424
36.00	17.9374	83.55	50.35	7.568
38.00	19.1125	89.09	53.72	7.717
40.00	20.2660	94.46	56.95	7.855
42.00	21.4049	99.72	60.11	7.984
44.00	22.5337	104.92	63.22	8.104
46.00	23.6547	110.07	66.29	8.219
48.00	24.7699	115.18	69.35	8.328
50.00	25.8803	120.28	72.38	8.432
52.00	26.9868	125.35	75.41	8.531
54.00	28.0899	130.41	78.43	8.627
56.00	29.1902	135.46	81.45	8.719
58.00	30.2879	140.51	84.46	8.807
60.00	31.3833	145.54	87.46	8.892
62.00	32.4768	150.57	90.47	8.975
64.00	33.5684	155.59	93.47	9.055
66.00	34.6584	160.60	96.47	9.132
68.00	35.7468	165.61	99.46	9.207
70.00	36.8339	170.62	102.46	9.279
72.00	37.9197	175.63	105.46	9.350
74.00	39.0043	180.63	108.45	9.418
76.00	40.0878	185.63	111.45	9.485
78.00	41.1704	190.63	114.45	9.550
80.00	42.2520	195.64	117.45	9.613
82.00	43.3328	200.64	120.45	9.675
84.00	44.4127	205.64	123.46	9.735
86.00	45.4919	210.65	126.46	9.794
88.00	46.5704	215.66	129.48	9.852
90.00	47.6483	220.67	132.50	9.908
92.00	48.7256	225.69	135.53	9.963
94.00	49.8023	230.72	138.56	10.017
96.00	50.8784	235.75	141.60	10.070
98.00	51.9541	240.80	144.65	10.122
100.00	53.0293	245.85	147.72	10.173
102.00	54.1041	250.91	150.79	10.223
104.00	55.1784	255.99	153.88	10.273
106.00	56.2523	261.07	156.98	10.321
108.00	57.3259	266.18	160.09	10.369
110.00	58.3992	271.29	163.23	10.416
112.00	59.4721	276.43	166.38	10.462
114.00	60.5447	281.58	169.54	10.508
116.00	61.6170	286.76	172.73	10.553
118.00	62.6890	291.95	175.95	10.597
120.00	63.7608	297.17	179.18	10.641
122.00	64.8323	302.41	182.44	10.684
124.00	65.9036	307.68	185.72	10.727
126.00	66.9746	312.97	189.03	10.769
128.00	68.0455	318.29	192.37	10.811
130.00	69.1161	323.64	195.74	10.853
132.00	70.1866	329.02	199.14	10.894
134.00	71.2568	334.44	202.58	10.935
136.00	72.3269	339.88	206.04	10.975
138.00	73.3968	345.37	209.54	11.015
140.00	74.4666	350.88	213.08	11.055
142.00	75.5362	356.44	216.66	11.094
144.00	76.6057	362.03	220.27	11.133
146.00	77.6750	367.67	223.93	11.172
148.00	78.7442	373.34	227.62	11.211
150.00	79.8133	379.05	231.36	11.249
152.00	80.8822	384.81	235.14	11.287
154.00	81.9510	390.61	238.96	11.325
156.00	83.0198	396.46	242.83	11.363
158.00	84.0884	402.35	246.74	11.400
160.00	85.1569	408.28	250.70	11.437
162.00	86.2253	414.26	254.70	11.475
164.00	87.2936	420.29	258.75	11.512
166.00	88.3618	426.36	262.84	11.548
168.00	89.4300	432.48	266.99	11.585
170.00	90.4980	438.64	271.18	11.622
172.00	91.5660	444.86	275.41	11.658
174.00	92.6339	451.11	279.69	11.694
176.00	93.7017	457.41	284.02	11.730
178.00	94.7695	463.76	288.39	11.766
180.00	95.8372	470.15	292.80	11.802
182.00	96.9047	476.58	297.26	11.837
184.00	97.9719	483.06	301.76	11.872
186.00	99.0392	489.58	306.31	11.908
188.00	100.1063	496.15	310.90	11.943
190.00	101.1733	502.76	315.53	11.978
192.00	102.2403	509.41	320.21	12.013
194.00	103.3072	516.11	324.94	12.047
196.00	104.3740	522.85	329.70	12.082
198.00	105.4407	529.63	334.51	12.116
200.00	106.5074	536.46	339.36	12.151
202.00	107.5739	543.32	344.25	12.185
204.00	108.6405	550.23	349.18	12.219
206.00	109.7069	557.17	354.15	12.253
208.00	110.7733	564.15	359.16	12.286
210.00	111.8397	571.18	364.21	12.320
212.00	112.9060	578.23	369.30	12.353
214.00	113.9723	585.33	374.42	12.387
216.00	115.0385	592.46	379.58	12.420
218.00	116.1048	599.62	384.77	12.453
220.00	117.1709	606.81	389.99	12.486
222.00	118.2371	614.04	395.24	12.519
224.00	119.3032	621.30	400.53	12.551
226.00	120.3693	628.59	405.84	12.583
228.00	121.4354	635.91	411.19	12.616
230.00	122.5015	643.26	416.57	12.648
232.00	123.5676	650.64	421.97	12.680
234.00	124.6336	658.04	427.40	12.712
236.00	125.6997	665.47	432.86	12.743
238.00	126.7657	672.93	438.35	12.775
240.00	127.8317	680.41	443.86	12.806
242.00	128.8978	687.92	449.39	12.837
244.00	129.9638	695.45	454.95	12.868
246.00	131.0298	703.00	460.53	12.899
248.00	132.0957	710.58	466.13	12.930
250.00	133.1617	718.17	471.75	12.960
252.00	134.2277	725.79	477.39	12.990
254.00	135.2937	733.42	483.05	13.021
256.00	136.3596	741.07	488.73	13.051
258.00	137.4255	748.74	494.43	13.080
260.00	138.4915	756.42	500.14	13.110

* PHASE CHANGE

TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)	TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)
262.00	139.5574	764.12	505.87	13.140	402.00	214.1317	1304.63	908.37	14.794
264.00	140.6232	771.84	511.61	13.169	404.00	215.1970	1312.13	913.90	14.813
266.00	141.6891	779.57	517.37	13.198	406.00	216.2624	1319.62	919.42	14.831
268.00	142.7549	787.31	523.14	13.227	408.00	217.3278	1327.11	924.94	14.850
270.00	143.8208	795.06	528.92	13.256	410.00	218.3932	1334.58	930.44	14.868
272.00	144.8866	802.80	534.69	13.284	412.00	219.4586	1342.05	935.93	14.886
274.00	145.9524	810.55	540.46	13.313	414.00	220.5241	1349.51	941.42	14.904
276.00	147.0181	818.31	546.25	13.341	416.00	221.5901	1356.96	946.90	14.922
278.00	148.0839	826.08	552.04	13.369	418.00	222.6560	1364.41	952.37	14.940
280.00	149.1496	833.85	557.84	13.397	420.00	223.7219	1371.84	957.84	14.958
282.00	150.2153	841.63	563.65	13.425	422.00	224.7877	1379.27	963.29	14.975
284.00	151.2809	849.42	569.47	13.452	424.00	225.8535	1386.69	968.74	14.993
286.00	152.3466	857.21	575.29	13.479	426.00	226.9192	1394.10	974.17	15.010
288.00	153.4122	865.00	581.11	13.507	428.00	227.9848	1401.50	979.60	15.028
290.00	154.4778	872.80	586.94	13.534	430.00	229.0502	1408.89	985.02	15.045
292.00	155.5434	880.61	592.77	13.560	432.00	230.1155	1416.27	990.43	15.062
294.00	156.6089	888.42	598.61	13.587	434.00	231.1807	1423.64	995.84	15.079
296.00	157.6745	896.23	604.45	13.614	436.00	232.2457	1431.01	1001.23	15.096
298.00	158.7400	904.04	610.29	13.640	438.00	233.3105	1438.37	1006.62	15.113
300.00	159.8055	911.86	616.13	13.666	440.00	234.3751	1445.71	1012.00	15.130
302.00	160.8710	919.67	621.98	13.692	442.00	235.4395	1453.05	1017.37	15.146
304.00	161.9364	927.49	627.82	13.718	444.00	236.5037	1460.39	1022.73	15.163
306.00	163.0019	935.31	633.67	13.743	446.00	237.5677	1467.71	1028.08	15.179
308.00	164.0673	943.12	639.51	13.769	448.00	238.6314	1475.02	1033.43	15.196
310.00	165.1327	950.94	645.36	13.794	450.00	239.6950	1482.33	1038.77	15.212
312.00	166.1981	958.75	651.20	13.819	452.00	240.7582	1489.65	1044.12	15.228
314.00	167.2635	966.57	657.04	13.844	454.00	241.8213	1496.95	1049.46	15.244
316.00	168.3289	974.38	662.88	13.869	456.00	242.8841	1504.25	1054.79	15.260
318.00	169.3942	982.19	668.72	13.894	458.00	243.9467	1511.54	1060.11	15.276
320.00	170.4596	990.00	674.56	13.918	460.00	245.0091	1518.83	1065.43	15.292
322.00	171.5249	997.80	680.39	13.942	462.00	246.0713	1526.11	1070.74	15.308
324.00	172.5903	1005.60	686.22	13.967	464.00	247.1333	1533.37	1076.05	15.324
326.00	173.6556	1013.40	692.04	13.991	466.00	248.1951	1540.64	1081.34	15.339
328.00	174.7210	1021.19	697.87	14.014	468.00	249.2568	1547.89	1086.64	15.355
330.00	175.7863	1028.98	703.68	14.038	470.00	250.3184	1555.14	1091.92	15.370
332.00	176.8516	1036.76	709.50	14.062	472.00	251.3798	1562.38	1097.20	15.386
334.00	177.9170	1044.54	715.30	14.085	474.00	252.4411	1569.62	1102.47	15.401
336.00	178.9823	1052.32	721.11	14.108	476.00	253.5024	1576.85	1107.73	15.416
338.00	180.0476	1060.09	726.90	14.131	478.00	254.5637	1584.07	1112.99	15.431
340.00	181.1130	1067.85	732.69	14.154	480.00	255.6249	1591.29	1118.25	15.446
342.00	182.1783	1075.61	738.48	14.177	482.00	256.6862	1598.50	1123.50	15.461
344.00	183.2436	1083.36	744.26	14.200	484.00	257.7476	1605.71	1128.74	15.476
346.00	184.3089	1091.10	750.03	14.222	486.00	258.8091	1612.91	1133.98	15.491
348.00	185.3743	1098.84	755.80	14.244	488.00	259.8708	1620.11	1139.21	15.506
350.00	186.4396	1106.57	761.55	14.266	490.00	260.9326	1627.30	1144.43	15.521
352.00	187.5049	1114.29	767.31	14.288	492.00	261.9947	1634.49	1149.66	15.535
354.00	188.5702	1122.01	773.05	14.310	494.00	263.0570	1641.67	1154.87	15.550
356.00	189.6355	1129.71	778.79	14.332	496.00	264.1197	1648.85	1160.09	15.564
358.00	190.7008	1137.41	784.52	14.354	498.00	265.1827	1656.02	1165.29	15.579
360.00	191.7661	1145.11	790.24	14.375	500.00	266.2460	1663.19	1170.50	15.593
362.00	192.8310	1152.79	795.95	14.396	502.00	267.3098	1670.36	1175.70	15.607
364.00	193.8960	1160.46	801.65	14.417	504.00	268.3741	1677.53	1180.89	15.622
366.00	194.9609	1168.12	807.34	14.438	506.00	269.4388	1684.69	1186.09	15.636
368.00	196.0258	1175.78	813.03	14.459	508.00	270.5040	1691.85	1191.27	15.650
370.00	197.0907	1183.43	818.71	14.480	510.00	271.5698	1699.00	1196.46	15.664
372.00	198.1556	1191.07	824.38	14.501	512.00	272.6361	1706.16	1201.64	15.678
374.00	199.2205	1198.70	830.04	14.521	514.00	273.7029	1713.31	1206.81	15.692
376.00	200.2854	1206.32	835.69	14.541	516.00	274.7704	1720.46	1211.99	15.706
378.00	201.3504	1213.94	841.33	14.562	518.00	275.8384	1727.60	1217.15	15.720
380.00	202.4153	1221.54	846.97	14.582	520.00	276.9069	1734.74	1222.32	15.733
382.00	203.4803	1229.14	852.59	14.602	522.00	277.9760	1741.88	1227.48	15.747
384.00	204.5453	1236.73	858.21	14.621	524.00	279.0456	1749.02	1232.64	15.761
386.00	205.6103	1244.30	863.82	14.641	526.00	280.1158	1756.16	1237.79	15.774
388.00	206.6754	1251.88	869.42	14.661	528.00	281.1863	1763.29	1242.95	15.788
390.00	207.7405	1259.44	875.01	14.680	530.00	282.2573	1770.42	1248.09	15.801
392.00	208.8056	1266.99	880.59	14.699	532.00	283.3287	1777.55	1253.24	15.815
394.00	209.8707	1274.54	886.16	14.719	534.00	284.4004	1784.67	1258.38	15.828
396.00	210.9359	1282.07	891.73	14.738	536.00	285.4722	1791.79	1263.52	15.841
398.00	212.0012	1289.60	897.29	14.757	538.00	286.5443	1798.91	1268.65	15.855
400.00	213.0664	1297.12	902.83	14.775	540.00	287.6163	1806.02	1273.78	15.868

15.00 PSIA ISOBAR

TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)
36.00	.2252	-111.01	-111.64	1.885
* 36.603	.2266	-109.62	-110.89	1.923
* 36.603	11.7299	81.93	49.37	7.155
38.00	12.3162	86.14	51.96	7.268
40.00	13.1300	91.89	55.44	7.416
42.00	13.9239	97.42	58.77	7.551
44.00	14.7041	102.81	62.00	7.676
46.00	15.4747	108.12	65.16	7.794
48.00	16.2381	113.36	68.29	7.906
50.00	16.9959	118.56	71.38	8.012
52.00	17.7491	123.72	74.46	8.113
54.00	18.4985	128.87	77.52	8.210
56.00	19.2448	133.99	80.57	8.303
58.00	19.9883	139.10	83.61	8.393
60.00	20.7294	144.19	86.65	8.479
62.00	21.4684	149.27	89.68	8.562
64.00	22.2054	154.34	92.71	8.643
66.00	22.9407	159.41	95.73	8.721
68.00	23.6744	164.47	98.75	8.796
70.00	24.4067	169.52	101.77	8.870
72.00	25.1377	174.56	104.79	8.941
74.00	25.8675	179.60	107.80	9.010
76.00	26.5962	184.64	110.82	9.077
78.00	27.3238	189.68	113.83	9.142
80.00	28.0505	194.71	116.85	9.206
82.00	28.7764	199.75	119.87	9.268
84.00	29.5014	204.78	122.89	9.329
86.00	30.2256	209.82	125.92	9.388
88.00	30.9492	214.85	128.94	9.446
90.00	31.6721	219.89	131.98	9.503
92.00	32.3944	224.94	135.02	9.558
94.00	33.1161	229.99	138.06	9.612
96.00	33.8372	235.04	141.12	9.666
98.00	34.5579	240.11	144.18	9.718
100.00	35.2781	245.18	147.26	9.769
102.00	35.9979	250.26	150.34	9.819
104.00	36.7172	255.36	153.44	9.869
106.00	37.4361	260.47	156.55	9.917
108.00	38.1547	265.59	159.68	9.965
110.00	38.8729	270.72	162.82	10.012
112.00	39.5908	275.87	165.98	10.059
114.00	40.3084	281.04	169.16	10.105
116.00	41.0257	286.23	172.35	10.150
118.00	41.7427	291.44	175.57	10.194
120.00	42.4594	296.67	178.81	10.238
122.00	43.1759	301.93	182.08	10.282
124.00	43.8922	307.21	185.37	10.325
126.00	44.6082	312.51	188.69	10.367
128.00	45.3240	317.85	192.04	10.409
130.00	46.0397	323.21	195.41	10.451
132.00	46.7551	328.60	198.82	10.492
134.00	47.4703	334.03	202.26	10.533
136.00	48.1854	339.48	205.73	10.573
138.00	48.9003	344.98	209.24	10.613
140.00	49.6150	350.50	212.78	10.653
142.00	50.3296	356.07	216.36	10.692
144.00	51.0440	361.67	219.98	10.731
146.00	51.7583	367.31	223.64	10.770
148.00	52.4725	373.00	227.34	10.809
150.00	53.1865	378.72	231.08	10.847
152.00	53.9005	384.48	234.87	10.886
154.00	54.6143	390.29	238.70	10.924
156.00	55.3280	396.15	242.57	10.961
158.00	56.0415	402.04	246.48	10.999
160.00	56.7550	407.98	250.44	11.036
162.00	57.4684	413.97	254.45	11.074
164.00	58.1817	420.01	258.51	11.111
166.00	58.8949	426.09	262.61	11.147
168.00	59.6080	432.21	266.75	11.184
170.00	60.3210	438.38	270.94	11.221
172.00	61.0340	444.60	275.18	11.257
174.00	61.7469	450.86	279.47	11.293
176.00	62.4597	457.17	283.80	11.329
178.00	63.1724	463.52	288.17	11.365
180.00	63.8850	469.92	292.59	11.401
182.00	64.5975	476.36	297.05	11.436
184.00	65.3099	482.84	301.55	11.472
186.00	66.0221	489.36	306.10	11.507
188.00	66.7343	495.94	310.69	11.542
190.00	67.4465	502.55	315.33	11.577
192.00	68.1585	509.21	320.01	11.612
194.00	68.8705	515.91	324.74	11.647
196.00	69.5824	522.65	329.51	11.681
198.00	70.2943	529.44	334.32	11.716
200.00	71.0061	536.27	339.17	11.750
202.00	71.7178	543.14	344.06	11.784
204.00	72.4295	550.05	349.00	11.818
206.00	73.1411	557.00	353.97	11.852
208.00	73.8527	563.98	358.98	11.886
210.00	74.5642	571.01	364.03	11.920
212.00	75.2757	578.07	369.12	11.953
214.00	75.9871	585.17	374.25	11.986
216.00	76.6985	592.30	379.41	12.020
218.00	77.4099	599.47	384.59	12.053
220.00	78.1212	606.67	389.82	12.085
222.00	78.8325	613.90	395.07	12.118
224.00	79.5437	621.16	400.36	12.151
226.00	80.2550	628.45	405.68	12.183
228.00	80.9662	635.77	411.03	12.215
230.00	81.6774	643.12	416.41	12.248
232.00	82.3886	650.51	421.81	12.279
234.00	83.0997	657.91	427.25	12.311
236.00	83.8108	665.35	432.71	12.343
238.00	84.5220	672.81	438.19	12.374
240.00	85.2330	680.29	443.70	12.406
242.00	85.9441	687.80	449.24	12.437
244.00	86.6552	695.34	454.80	12.468
246.00	87.3662	702.89	460.38	12.499
248.00	88.0773	710.47	465.98	12.529
250.00	88.7883	718.06	471.61	12.560
252.00	89.4993	725.68	477.25	12.590
254.00	90.2103	733.32	482.91	12.620
256.00	90.9212	740.97	488.59	12.650
258.00	91.6322	748.64	494.29	12.680
260.00	92.3431	756.33	500.00	12.710

*PHASE CHANGE

TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)	TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)
262.00	93.0541	764.03	505.73	12.739	402.00	142.7858	1304.63	908.29	14.394
264.00	93.7650	771.75	511.48	12.769	404.00	143.4961	1312.14	913.82	14.413
266.00	94.4758	779.48	517.23	12.798	406.00	144.2065	1319.63	919.34	14.432
268.00	95.1867	787.22	523.00	12.827	408.00	144.9168	1327.12	924.86	14.450
270.00	95.8975	794.98	528.79	12.856	410.00	145.6272	1334.59	930.36	14.468
272.00	96.6084	802.72	534.56	12.884	412.00	146.3377	1342.06	935.86	14.486
274.00	97.3192	810.47	540.33	12.913	414.00	147.0481	1349.52	941.34	14.504
276.00	98.0300	818.23	546.12	12.941	416.00	147.7589	1356.97	946.83	14.522
278.00	98.7407	826.00	551.92	12.969	418.00	148.4696	1364.42	952.30	14.540
280.00	99.4515	833.77	557.72	12.997	420.00	149.1803	1371.86	957.76	14.558
282.00	100.1622	841.56	563.53	13.025	422.00	149.8910	1379.28	963.22	14.576
284.00	100.8729	849.34	569.34	13.052	424.00	150.6017	1386.70	968.66	14.593
286.00	101.5836	857.14	575.16	13.079	426.00	151.3123	1394.11	974.10	14.611
288.00	102.2943	864.93	580.99	13.107	428.00	152.0228	1401.51	979.53	14.628
290.00	103.0050	872.74	586.82	13.134	430.00	152.7332	1408.91	984.95	14.645
292.00	103.7156	880.54	592.65	13.160	432.00	153.4435	1416.29	990.36	14.662
294.00	104.4262	888.35	598.49	13.187	434.00	154.1537	1423.67	995.77	14.679
296.00	105.1369	896.17	604.33	13.214	436.00	154.8638	1431.03	1001.16	14.696
298.00	105.8475	903.98	610.17	13.240	438.00	155.5738	1438.39	1006.55	14.713
300.00	106.5580	911.80	616.01	13.266	440.00	156.2836	1445.74	1011.93	14.730
302.00	107.2686	919.61	621.86	13.292	442.00	156.9933	1453.08	1017.30	14.746
304.00	107.9792	927.43	627.70	13.318	444.00	157.7029	1460.41	1022.66	14.763
306.00	108.6897	935.25	633.55	13.343	446.00	158.4123	1467.74	1028.02	14.779
308.00	109.4002	943.07	639.40	13.369	448.00	159.1216	1475.05	1033.36	14.796
310.00	110.1108	950.89	645.24	13.394	450.00	159.8307	1482.36	1038.70	14.812
312.00	110.8213	958.70	651.09	13.419	452.00	160.5396	1489.67	1044.05	14.828
314.00	111.5318	966.52	656.93	13.444	454.00	161.2484	1496.98	1049.39	14.844
316.00	112.2423	974.33	662.77	13.469	456.00	161.9570	1504.28	1054.72	14.861
318.00	112.9528	982.14	668.61	13.494	458.00	162.6655	1511.58	1060.05	14.876
320.00	113.6633	989.95	674.45	13.518	460.00	163.3738	1518.86	1065.37	14.892
322.00	114.3737	997.76	680.28	13.543	462.00	164.0820	1526.14	1070.68	14.908
324.00	115.0842	1005.56	686.11	13.567	464.00	164.7901	1533.41	1075.98	14.924
326.00	115.7947	1013.36	691.94	13.591	466.00	165.4980	1540.67	1081.28	14.939
328.00	116.5051	1021.15	697.76	13.615	468.00	166.2058	1547.93	1086.57	14.955
330.00	117.2156	1028.94	703.58	13.638	470.00	166.9136	1555.18	1091.86	14.970
332.00	117.9261	1036.73	709.39	13.662	472.00	167.6213	1562.42	1097.14	14.986
334.00	118.6365	1044.51	715.20	13.685	474.00	168.3289	1569.66	1102.41	15.001
336.00	119.3470	1052.28	721.00	13.708	476.00	169.0364	1576.89	1107.68	15.016
338.00	120.0574	1060.05	726.80	13.731	478.00	169.7440	1584.11	1112.94	15.031
340.00	120.7679	1067.82	732.59	13.754	480.00	170.4516	1591.33	1118.19	15.047
342.00	121.4783	1075.58	738.38	13.777	482.00	171.1592	1598.54	1123.44	15.062
344.00	122.1888	1083.33	744.16	13.800	484.00	171.8668	1605.75	1128.68	15.076
346.00	122.8992	1091.07	749.93	13.822	486.00	172.5745	1612.95	1133.92	15.091
348.00	123.6096	1098.81	755.70	13.844	488.00	173.2824	1620.15	1139.15	15.106
350.00	124.3201	1106.54	761.46	13.867	490.00	173.9903	1627.34	1144.38	15.121
352.00	125.0305	1114.27	767.21	13.889	492.00	174.6985	1634.53	1149.60	15.135
354.00	125.7409	1121.98	772.95	13.910	494.00	175.4068	1641.71	1154.82	15.150
356.00	126.4513	1129.69	778.69	13.932	496.00	176.1153	1648.89	1160.03	15.165
358.00	127.1617	1137.40	784.42	13.954	498.00	176.8240	1656.07	1165.24	15.179
360.00	127.8721	1145.09	790.14	13.975	500.00	177.5331	1663.24	1170.44	15.193
362.00	128.5823	1152.77	795.85	13.996	502.00	178.2424	1670.41	1175.64	15.208
364.00	129.2924	1160.45	801.56	14.018	504.00	178.9520	1677.57	1180.84	15.222
366.00	130.0025	1168.11	807.25	14.039	506.00	179.6619	1684.73	1186.03	15.236
368.00	130.7126	1175.77	812.94	14.059	508.00	180.3722	1691.89	1191.22	15.250
370.00	131.4227	1183.42	818.62	14.080	510.00	181.0828	1699.05	1196.40	15.264
372.00	132.1328	1191.06	824.28	14.101	512.00	181.7939	1706.20	1201.58	15.278
374.00	132.8429	1198.69	829.95	14.121	514.00	182.5053	1713.35	1206.76	15.292
376.00	133.5530	1206.31	835.60	14.142	516.00	183.2170	1720.50	1211.93	15.306
378.00	134.2632	1213.93	841.24	14.162	518.00	183.9292	1727.65	1217.10	15.320
380.00	134.9733	1221.54	846.88	14.182	520.00	184.6418	1734.79	1222.26	15.334
382.00	135.6834	1229.13	852.50	14.202	522.00	185.3547	1741.93	1227.43	15.347
384.00	136.3936	1236.72	858.12	14.222	524.00	186.0680	1749.07	1232.58	15.361
386.00	137.1037	1244.30	863.73	14.241	526.00	186.7816	1756.21	1237.74	15.375
388.00	137.8139	1251.87	869.33	14.261	528.00	187.4955	1763.34	1242.89	15.388
390.00	138.5241	1259.44	874.92	14.280	530.00	188.2097	1770.47	1248.04	15.402
392.00	139.2343	1266.99	880.51	14.300	532.00	188.9241	1777.60	1253.18	15.415
394.00	139.9446	1274.54	886.08	14.319	534.00	189.6388	1784.72	1258.32	15.428
396.00	140.6548	1282.08	891.65	14.338	536.00	190.3536	1791.84	1263.46	15.442
398.00	141.3651	1289.60	897.20	14.357	538.00	191.0684	1798.96	1268.59	15.455
400.00	142.0754	1297.12	902.75	14.376	540.00	191.7834	1806.07	1273.72	15.468

20.00 PSIA ISOBAR

TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)
36.00	.2251	-110.87	-111.71	1.883
38.00	.2294	-106.14	-106.99	2.011
* 38.436	.2305	-105.06	-106.78	2.039
* 38.436	9.0293	84.17	50.75	6.962
40.00	9.5393	89.04	53.73	7.086
42.00	10.1676	94.92	57.29	7.230
44.00	10.7781	100.57	60.68	7.361
46.00	11.3764	106.07	63.96	7.483
48.00	11.9659	111.46	67.17	7.598
50.00	12.5487	116.78	70.34	7.707
52.00	13.1264	122.05	73.47	7.810
54.00	13.6998	127.28	76.58	7.909
56.00	14.2697	132.48	79.67	8.003
58.00	14.8366	137.66	82.75	8.094
60.00	15.4008	142.82	85.82	8.182
62.00	15.9628	147.96	88.88	8.266
64.00	16.5228	153.09	91.93	8.347
66.00	17.0810	158.20	94.98	8.426
68.00	17.6375	163.31	98.03	8.502
70.00	18.1925	168.40	101.07	8.576
72.00	18.7462	173.49	104.11	8.648
74.00	19.2987	178.57	107.15	8.717
76.00	19.8500	183.65	110.18	8.785
78.00	20.4003	188.72	113.22	8.851
80.00	20.9496	193.79	116.25	8.915
82.00	21.4980	198.85	119.29	8.978
84.00	22.0456	203.92	122.32	9.039
86.00	22.5924	208.98	125.36	9.098
88.00	23.1385	214.04	128.41	9.156
90.00	23.6839	219.11	131.46	9.213
92.00	24.2288	224.18	134.51	9.269
94.00	24.7730	229.25	137.57	9.324
96.00	25.3167	234.33	140.64	9.377
98.00	25.8599	239.42	143.71	9.430
100.00	26.4026	244.51	146.80	9.481
102.00	26.9448	249.62	149.89	9.532
104.00	27.4867	254.73	153.00	9.581
106.00	28.0281	259.86	156.12	9.630
108.00	28.5692	264.99	159.26	9.678
110.00	29.1099	270.15	162.41	9.725
112.00	29.6503	275.32	165.58	9.772
114.00	30.1904	280.50	168.77	9.818
116.00	30.7302	285.71	171.97	9.863
118.00	31.2697	290.93	175.20	9.908
120.00	31.8089	296.18	178.45	9.952
122.00	32.3479	301.44	181.72	9.995
124.00	32.8866	306.74	185.02	10.038
126.00	33.4252	312.06	188.35	10.081
128.00	33.9635	317.40	191.70	10.123
130.00	34.5016	322.78	195.08	10.165
132.00	35.0395	328.18	198.50	10.206
134.00	35.5772	333.62	201.94	10.247
136.00	36.1148	339.08	205.42	10.287
138.00	36.6521	344.59	208.93	10.327
140.00	37.1894	350.12	212.48	10.367
142.00	37.7264	355.70	216.07	10.407
144.00	38.2633	361.31	219.70	10.446
146.00	38.8001	366.96	223.36	10.485
148.00	39.3368	372.65	227.06	10.524
150.00	39.8733	378.38	230.81	10.562
152.00	40.4097	384.16	234.60	10.600
154.00	40.9460	389.97	238.43	10.638
156.00	41.4822	395.84	242.31	10.676
158.00	42.0182	401.74	246.23	10.714
160.00	42.5542	407.69	250.19	10.751
162.00	43.0901	413.68	254.21	10.788
164.00	43.6259	419.72	258.26	10.826
166.00	44.1615	425.81	262.37	10.862
168.00	44.6971	431.94	266.52	10.899
170.00	45.2327	438.12	270.71	10.936
172.00	45.7681	444.34	274.95	10.972
174.00	46.3034	450.61	279.24	11.008
176.00	46.8387	456.93	283.57	11.044
178.00	47.3739	463.28	287.95	11.080
180.00	47.9091	469.68	292.37	11.116
182.00	48.4441	476.13	296.83	11.152
184.00	48.9789	482.62	301.34	11.187
186.00	49.5137	489.15	305.89	11.222
188.00	50.0484	495.72	310.49	11.258
190.00	50.5831	502.34	315.13	11.293
192.00	51.1177	509.01	319.82	11.328
194.00	51.6522	515.71	324.55	11.362
196.00	52.1866	522.46	329.32	11.397
198.00	52.7210	529.25	334.13	11.431
200.00	53.2554	536.09	338.99	11.466
202.00	53.7896	542.96	343.88	11.500
204.00	54.3239	549.87	348.82	11.534
206.00	54.8580	556.82	353.79	11.568
208.00	55.3921	563.82	358.81	11.602
210.00	55.9262	570.84	363.86	11.635
212.00	56.4602	577.91	368.95	11.669
214.00	56.9942	585.01	374.07	11.702
216.00	57.5282	592.15	379.24	11.735
218.00	58.0621	599.32	384.43	11.768
220.00	58.5959	606.52	389.65	11.801
222.00	59.1298	613.75	394.91	11.834
224.00	59.6636	621.01	400.20	11.866
226.00	60.1974	628.31	405.52	11.899
228.00	60.7311	635.64	410.87	11.931
230.00	61.2649	642.99	416.25	11.963
232.00	61.7986	650.37	421.65	11.995
234.00	62.3323	657.78	427.09	12.027
236.00	62.8660	665.22	432.55	12.059
238.00	63.3996	672.68	438.04	12.090
240.00	63.9333	680.17	443.55	12.122
242.00	64.4669	687.68	449.09	12.153
244.00	65.0005	695.22	454.65	12.184
246.00	65.5341	702.78	460.23	12.215
248.00	66.0677	710.35	465.83	12.245
250.00	66.6013	717.95	471.46	12.276
252.00	67.1348	725.57	477.10	12.306
254.00	67.6683	733.21	482.77	12.336
256.00	68.2019	740.87	488.45	12.366
258.00	68.7354	748.54	494.15	12.396
260.00	69.2689	756.23	499.86	12.426

*PHASE CHANGE

TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)	TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)
262.00	69.8023	763.93	505.59	12.455	402.00	107.1129	1304.64	908.21	14.111
264.00	70.3358	771.65	511.34	12.485	404.00	107.6458	1312.14	913.74	14.129
266.00	70.8692	779.39	517.10	12.514	406.00	108.1787	1319.64	919.26	14.148
268.00	71.4027	787.13	522.87	12.543	408.00	108.7116	1327.12	924.78	14.166
270.00	71.9361	794.89	528.65	12.572	410.00	109.2445	1334.60	930.28	14.184
272.00	72.4694	802.63	534.42	12.600	412.00	109.7775	1342.07	935.78	14.203
274.00	73.0028	810.39	540.20	12.629	414.00	110.3104	1349.53	941.26	14.221
276.00	73.5362	818.15	545.99	12.657	416.00	110.8436	1356.98	946.75	14.239
278.00	74.0695	825.92	551.78	12.685	418.00	111.3767	1364.43	952.22	14.257
280.00	74.6028	833.70	557.59	12.713	420.00	111.9098	1371.87	957.68	14.274
282.00	75.1361	841.48	563.40	12.741	422.00	112.4429	1379.30	963.14	14.292
284.00	75.6694	849.27	569.21	12.768	424.00	112.9760	1386.72	968.59	14.309
286.00	76.2027	857.06	575.03	12.795	426.00	113.5090	1394.13	974.02	14.327
288.00	76.7359	864.86	580.86	12.823	428.00	114.0419	1401.53	979.45	14.344
290.00	77.2692	872.67	586.69	12.850	430.00	114.5748	1408.92	984.88	14.361
292.00	77.8024	880.48	592.53	12.876	432.00	115.1076	1416.31	990.29	14.379
294.00	78.3356	888.29	598.36	12.903	434.00	115.6404	1423.68	995.69	14.396
296.00	78.8687	896.10	604.20	12.930	436.00	116.1730	1431.05	1001.09	14.413
298.00	79.4019	903.92	610.05	12.956	438.00	116.7056	1438.41	1006.48	14.429
300.00	79.9351	911.74	615.89	12.982	440.00	117.2380	1445.76	1011.85	14.446
302.00	80.4682	919.56	621.74	13.008	442.00	117.7704	1453.10	1017.23	14.463
304.00	81.0013	927.38	627.59	13.034	444.00	118.3026	1460.43	1022.59	14.479
306.00	81.5344	935.20	633.43	13.060	446.00	118.8347	1467.76	1027.94	14.496
308.00	82.0675	943.02	639.28	13.085	448.00	119.3667	1475.07	1033.29	14.512
310.00	82.6006	950.84	645.13	13.110	450.00	119.8986	1482.38	1038.63	14.528
312.00	83.1336	958.65	650.97	13.135	452.00	120.4304	1489.70	1043.98	14.545
314.00	83.6667	966.47	656.82	13.160	454.00	120.9621	1497.01	1049.32	14.561
316.00	84.1997	974.29	662.66	13.185	456.00	121.4936	1504.31	1054.65	14.577
318.00	84.7328	982.10	668.50	13.210	458.00	122.0250	1511.60	1059.98	14.593
320.00	85.2658	989.91	674.34	13.234	460.00	122.5563	1518.89	1065.30	14.609
322.00	85.7988	997.72	680.17	13.259	462.00	123.0876	1526.17	1070.61	14.624
324.00	86.3318	1005.52	686.00	13.283	464.00	123.6187	1533.44	1075.92	14.640
326.00	86.8648	1013.32	691.83	13.307	466.00	124.1497	1540.70	1081.22	14.656
328.00	87.3978	1021.12	697.65	13.331	468.00	124.6807	1547.96	1086.51	14.671
330.00	87.9308	1028.91	703.47	13.354	470.00	125.2116	1555.21	1091.79	14.687
332.00	88.4638	1036.69	709.28	13.378	472.00	125.7424	1562.45	1097.07	14.702
334.00	88.9967	1044.48	715.09	13.401	474.00	126.2732	1569.69	1102.34	14.717
336.00	89.5297	1052.25	720.90	13.424	476.00	126.8039	1576.92	1107.61	14.733
338.00	90.0627	1060.02	726.70	13.448	478.00	127.3347	1584.14	1112.87	14.748
340.00	90.5956	1067.79	732.49	13.470	480.00	127.8654	1591.36	1118.13	14.763
342.00	91.1286	1075.55	738.28	13.493	482.00	128.3962	1598.58	1123.37	14.778
344.00	91.6615	1083.30	744.06	13.516	484.00	128.9270	1605.78	1128.62	14.793
346.00	92.1945	1091.05	749.83	13.538	486.00	129.4579	1612.99	1133.86	14.808
348.00	92.7274	1098.79	755.60	13.561	488.00	129.9888	1620.18	1139.09	14.822
350.00	93.2603	1106.52	761.36	13.583	490.00	130.5199	1627.38	1144.32	14.837
352.00	93.7933	1114.24	767.11	13.605	492.00	131.0510	1634.57	1149.54	14.852
354.00	94.3262	1121.96	772.86	13.627	494.00	131.5823	1641.75	1154.76	14.866
356.00	94.8591	1129.67	778.59	13.648	496.00	132.1138	1648.93	1159.97	14.881
358.00	95.3920	1137.38	784.33	13.670	498.00	132.6454	1656.11	1165.18	14.895
360.00	95.9249	1145.07	790.05	13.691	500.00	133.1772	1663.28	1170.38	14.910
362.00	96.4577	1152.75	795.76	13.713	502.00	133.7092	1670.45	1175.58	14.924
364.00	96.9904	1160.43	801.46	13.734	504.00	134.2415	1677.61	1180.78	14.938
366.00	97.5231	1168.10	807.16	13.755	506.00	134.7740	1684.78	1185.97	14.952
368.00	98.0558	1175.75	812.84	13.776	508.00	135.3067	1691.94	1191.16	14.967
370.00	98.5885	1183.40	818.52	13.796	510.00	135.8397	1699.09	1196.34	14.981
372.00	99.1212	1191.05	824.19	13.817	512.00	136.3730	1706.25	1201.52	14.995
374.00	99.6540	1198.68	829.85	13.837	514.00	136.9065	1713.40	1206.70	15.009
376.00	100.1867	1206.30	835.51	13.858	516.00	137.4404	1720.55	1211.87	15.022
378.00	100.7194	1213.92	841.15	13.878	518.00	137.9745	1727.69	1217.04	15.036
380.00	101.2521	1221.53	846.79	13.898	520.00	138.5089	1734.84	1222.21	15.050
382.00	101.7849	1229.13	852.42	13.918	522.00	139.0435	1741.98	1227.37	15.064
384.00	102.3176	1236.72	858.03	13.938	524.00	139.5784	1749.12	1232.53	15.077
386.00	102.8504	1244.30	863.64	13.957	526.00	140.1136	1756.25	1237.68	15.091
388.00	103.3831	1251.87	869.24	13.977	528.00	140.6490	1763.39	1242.84	15.105
390.00	103.9159	1259.44	874.84	13.996	530.00	141.1846	1770.52	1247.98	15.118
392.00	104.4487	1266.99	880.42	14.016	532.00	141.7204	1777.64	1253.13	15.131
394.00	104.9815	1274.54	886.00	14.035	534.00	142.2563	1784.77	1258.27	15.145
396.00	105.5144	1282.08	891.56	14.054	536.00	142.7923	1791.89	1263.41	15.158
398.00	106.0472	1289.61	897.12	14.073	538.00	143.3284	1799.01	1268.54	15.171
400.00	106.5801	1297.13	902.67	14.092	540.00	143.8645	1806.12	1273.67	15.185

30.00 PSIA ISO8AR

TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)
36.00	.2248	-110.59	-111.84	1.879
38.00	.2291	-105.88	-107.15	2.006
40.00	.2339	-100.81	-102.10	2.136
* 41.291	.2374	-97.32	-99.97	2.222
* 41.291	6.2031	86.78	52.34	6.682
42.00	6.3707	89.18	53.82	6.740
44.00	6.8244	95.59	57.70	6.889
46.00	7.2584	101.61	61.32	7.023
48.00	7.6792	107.40	64.77	7.146
50.00	8.0906	113.04	68.12	7.261
52.00	8.4952	118.56	71.39	7.369
54.00	8.8944	124.00	74.62	7.472
56.00	9.2892	129.38	77.81	7.570
58.00	9.6805	134.72	80.97	7.663
60.00	10.0688	140.01	84.12	7.753
62.00	10.4545	145.28	87.25	7.840
64.00	10.8379	150.53	90.36	7.923
66.00	11.2193	155.75	93.47	8.003
68.00	11.5990	160.96	96.56	8.081
70.00	11.9771	166.15	99.65	8.156
72.00	12.3537	171.32	102.74	8.229
74.00	12.7290	176.48	105.82	8.300
76.00	13.1031	181.64	108.89	8.368
78.00	13.4762	186.78	111.97	8.435
80.00	13.8482	191.92	115.04	8.500
82.00	14.2193	197.05	118.11	8.564
84.00	14.5895	202.18	121.18	8.625
86.00	14.9590	207.30	124.25	8.686
88.00	15.3277	212.42	127.33	8.745
90.00	15.6957	217.54	130.40	8.802
92.00	16.0631	222.66	133.49	8.858
94.00	16.4299	227.78	136.57	8.913
96.00	16.7962	232.91	139.66	8.967
98.00	17.1619	238.04	142.77	9.020
100.00	17.5272	243.18	145.88	9.072
102.00	17.8920	248.32	148.99	9.123
104.00	18.2563	253.47	152.12	9.173
106.00	18.6203	258.64	155.26	9.222
108.00	18.9839	263.81	158.42	9.271
110.00	19.3471	269.00	161.59	9.318
112.00	19.7100	274.20	164.78	9.365
114.00	20.0726	279.42	167.98	9.411
116.00	20.4349	284.65	171.21	9.457
118.00	20.7969	289.91	174.45	9.502
120.00	21.1586	295.18	177.72	9.546
122.00	21.5201	300.48	181.01	9.590
124.00	21.8813	305.80	184.32	9.633
126.00	22.2423	311.14	187.66	9.676
128.00	22.6031	316.51	191.03	9.718
130.00	22.9637	321.91	194.42	9.760
132.00	23.3241	327.34	197.85	9.801
134.00	23.6843	332.79	201.31	9.842
136.00	24.0444	338.28	204.80	9.883
138.00	24.4042	343.81	208.32	9.923
140.00	24.7639	349.36	211.89	9.963
142.00	25.1235	354.96	215.48	10.003
144.00	25.4829	360.59	219.12	10.042
146.00	25.8422	366.26	222.79	10.082
148.00	26.2013	371.97	226.51	10.120
150.00	26.5603	377.72	230.26	10.159
152.00	26.9192	383.51	234.06	10.197
154.00	27.2780	389.34	237.90	10.235
156.00	27.6366	395.22	241.79	10.273
158.00	27.9952	401.14	245.72	10.311
160.00	28.3536	407.10	249.69	10.349
162.00	28.7120	413.11	253.71	10.386
164.00	29.0702	419.16	257.78	10.423
166.00	29.4284	425.26	261.89	10.460
168.00	29.7865	431.41	266.05	10.497
170.00	30.1445	437.60	270.25	10.533
172.00	30.5024	443.83	274.50	10.570
174.00	30.8602	450.12	278.79	10.606
176.00	31.2180	456.44	283.13	10.642
178.00	31.5757	462.81	287.52	10.678
180.00	31.9333	469.22	291.94	10.714
182.00	32.2908	475.68	296.41	10.750
184.00	32.6481	482.17	300.93	10.785
186.00	33.0054	488.72	305.48	10.821
188.00	33.3626	495.30	310.09	10.856
190.00	33.7198	501.93	314.73	10.891
192.00	34.0769	508.60	319.42	10.926
194.00	34.4339	515.32	324.16	10.961
196.00	34.7909	522.08	328.93	10.995
198.00	35.1478	528.88	333.75	11.030
200.00	35.5047	535.72	338.61	11.064
202.00	35.8615	542.60	343.51	11.098
204.00	36.2183	549.52	348.45	11.133
206.00	36.5750	556.48	353.43	11.167
208.00	36.9316	563.48	358.45	11.200
210.00	37.2883	570.51	363.50	11.234
212.00	37.6448	577.58	368.59	11.267
214.00	38.0014	584.69	373.72	11.301
216.00	38.3579	591.84	378.89	11.334
218.00	38.7144	599.01	384.08	11.367
220.00	39.0708	606.21	389.31	11.400
222.00	39.4272	613.45	394.57	11.433
224.00	39.7836	620.72	399.86	11.465
226.00	40.1399	628.02	405.18	11.498
228.00	40.4963	635.36	410.54	11.530
230.00	40.8526	642.72	415.92	11.562
232.00	41.2088	650.10	421.33	11.594
234.00	41.5651	657.52	426.77	11.626
236.00	41.9213	664.96	432.23	11.658
238.00	42.2775	672.43	437.72	11.689
240.00	42.6337	679.92	443.24	11.721
242.00	42.9899	687.44	448.78	11.752
244.00	43.3461	694.98	454.34	11.783
246.00	43.7022	702.54	459.92	11.814
248.00	44.0584	710.12	465.53	11.844
250.00	44.4145	717.73	471.16	11.875
252.00	44.7706	725.35	476.80	11.905
254.00	45.1266	732.99	482.47	11.936
256.00	45.4827	740.66	488.15	11.966
258.00	45.8387	748.33	493.86	11.995
260.00	46.1947	756.03	499.57	12.025

*PHASE CHANGE

TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)	TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)
262.00	46.5508	763.74	505.31	12.055	402.00	71.4398	1304.64	908.04	13.711
264.00	46.9067	771.46	511.05	12.084	404.00	71.7951	1312.15	913.57	13.729
266.00	47.2627	779.20	516.81	12.113	406.00	72.1505	1319.65	919.10	13.748
268.00	47.6187	786.95	522.59	12.142	408.00	72.5059	1327.13	924.61	13.766
270.00	47.9746	794.71	528.37	12.171	410.00	72.8613	1334.61	930.12	13.784
272.00	48.3305	802.46	534.15	12.200	412.00	73.2167	1342.08	935.61	13.803
274.00	48.6864	810.22	539.93	12.228	414.00	73.5721	1349.55	941.10	13.821
276.00	49.0423	817.98	545.72	12.256	416.00	73.9277	1357.00	946.59	13.839
278.00	49.3982	825.76	551.52	12.284	418.00	74.2832	1364.45	952.06	13.856
280.00	49.7540	833.54	557.32	12.312	420.00	74.6388	1371.89	957.53	13.874
282.00	50.1099	841.32	563.13	12.340	422.00	74.9943	1379.32	962.98	13.892
284.00	50.4657	849.12	568.95	12.368	424.00	75.3498	1386.74	968.43	13.909
286.00	50.8215	856.92	574.78	12.395	426.00	75.7052	1394.15	973.87	13.927
288.00	51.1773	864.72	580.61	12.422	428.00	76.0606	1401.56	979.30	13.944
290.00	51.5330	872.53	586.44	12.449	430.00	76.4160	1408.95	984.72	13.961
292.00	51.8888	880.34	592.28	12.476	432.00	76.7713	1416.34	990.14	13.979
294.00	52.2445	888.16	598.12	12.503	434.00	77.1265	1423.72	995.54	13.996
296.00	52.6002	895.98	603.96	12.529	436.00	77.4817	1431.09	1000.94	14.013
298.00	52.9559	903.80	609.81	12.556	438.00	77.8368	1438.45	1006.33	14.029
300.00	53.3116	911.62	615.65	12.582	440.00	78.1919	1445.80	1011.71	14.046
302.00	53.6673	919.44	621.50	12.608	442.00	78.5469	1453.14	1017.08	14.063
304.00	54.0229	927.26	627.35	12.634	444.00	78.9018	1460.47	1022.44	14.079
306.00	54.3786	935.09	633.20	12.659	446.00	79.2567	1467.80	1027.80	14.096
308.00	54.7342	942.91	639.05	12.685	448.00	79.6114	1475.12	1033.15	14.112
310.00	55.0898	950.73	644.90	12.710	450.00	79.9661	1482.43	1038.49	14.128
312.00	55.4454	958.56	650.75	12.735	452.00	80.3207	1489.75	1043.84	14.145
314.00	55.8010	966.38	656.59	12.760	454.00	80.6753	1497.06	1049.18	14.161
316.00	56.1566	974.19	662.44	12.785	456.00	81.0297	1504.36	1054.52	14.177
318.00	56.5122	982.01	668.28	12.810	458.00	81.3841	1511.66	1059.84	14.193
320.00	56.8678	989.82	674.12	12.834	460.00	81.7384	1518.94	1065.17	14.209
322.00	57.2233	997.63	679.95	12.858	462.00	82.0926	1526.22	1070.48	14.225
324.00	57.5789	1005.44	685.79	12.883	464.00	82.4468	1533.50	1075.78	14.240
326.00	57.9344	1013.24	691.61	12.907	466.00	82.8009	1540.76	1081.08	14.256
328.00	58.2900	1021.04	697.44	12.930	468.00	83.1550	1548.02	1086.38	14.271
330.00	58.6455	1028.84	703.26	12.954	470.00	83.5090	1555.27	1091.66	14.287
332.00	59.0010	1036.63	709.08	12.978	472.00	83.8630	1562.52	1096.94	14.302
334.00	59.3566	1044.41	714.89	13.001	474.00	84.2170	1569.75	1102.22	14.318
336.00	59.7121	1052.19	720.69	13.024	476.00	84.5709	1576.99	1107.48	14.333
338.00	60.0676	1059.96	726.49	13.047	478.00	84.9248	1584.21	1112.74	14.348
340.00	60.4231	1067.73	732.29	13.070	480.00	85.2788	1591.43	1118.00	14.363
342.00	60.7786	1075.49	738.07	13.093	482.00	85.6327	1598.65	1123.25	14.378
344.00	61.1341	1083.25	743.86	13.116	484.00	85.9867	1605.86	1128.49	14.393
346.00	61.4896	1091.00	749.63	13.138	486.00	86.3407	1613.06	1133.73	14.408
348.00	61.8450	1098.74	755.40	13.160	488.00	86.6948	1620.26	1138.97	14.423
350.00	62.2005	1106.47	761.16	13.183	490.00	87.0489	1627.45	1144.19	14.437
352.00	62.5560	1114.20	766.92	13.205	492.00	87.4031	1634.64	1149.42	14.452
354.00	62.9115	1121.92	772.66	13.226	494.00	87.7574	1641.83	1154.64	14.466
356.00	63.2669	1129.63	778.40	13.248	496.00	88.1118	1649.01	1159.85	14.481
358.00	63.6224	1137.34	784.13	13.270	498.00	88.4663	1656.19	1165.06	14.495
360.00	63.9778	1145.04	789.86	13.291	500.00	88.8209	1663.36	1170.26	14.510
362.00	64.3332	1152.72	795.57	13.312	502.00	89.1757	1670.53	1175.46	14.524
364.00	64.6885	1160.40	801.27	13.334	504.00	89.5306	1677.70	1180.66	14.538
366.00	65.0438	1168.07	806.97	13.355	506.00	89.8857	1684.86	1185.85	14.553
368.00	65.3991	1175.73	812.66	13.375	508.00	90.2409	1692.02	1191.04	14.567
370.00	65.7544	1183.38	818.34	13.396	510.00	90.5964	1699.18	1196.23	14.581
372.00	66.1097	1191.02	824.01	13.417	512.00	90.9520	1706.34	1201.41	14.595
374.00	66.4651	1198.66	829.67	13.437	514.00	91.3077	1713.49	1206.58	14.609
376.00	66.8204	1206.29	835.33	13.458	516.00	91.6637	1720.64	1211.76	14.623
378.00	67.1757	1213.90	840.97	13.478	518.00	92.0199	1727.78	1216.93	14.636
380.00	67.5310	1221.51	846.61	13.498	520.00	92.3762	1734.93	1222.09	14.650
382.00	67.8863	1229.11	852.24	13.518	522.00	92.7327	1742.07	1227.26	14.664
384.00	68.2416	1236.71	857.86	13.538	524.00	93.0894	1749.21	1232.41	14.678
386.00	68.5969	1244.29	863.47	13.557	526.00	93.4462	1756.35	1237.57	14.691
388.00	68.9523	1251.86	869.07	13.577	528.00	93.8032	1763.48	1242.72	14.705
390.00	69.3076	1259.43	874.66	13.596	530.00	94.1604	1770.61	1247.87	14.718
392.00	69.6629	1266.99	880.25	13.616	532.00	94.5176	1777.74	1253.02	14.732
394.00	70.0183	1274.54	885.82	13.635	534.00	94.8749	1784.86	1258.16	14.745
396.00	70.3736	1282.08	891.39	13.654	536.00	95.2323	1791.98	1263.29	14.758
398.00	70.7290	1289.61	896.95	13.673	538.00	95.5898	1799.10	1268.43	14.771
400.00	71.0844	1297.13	902.50	13.692	540.00	95.9472	1806.22	1273.56	14.785

40.00 PSIA ISO8AR

TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)
36.00	.2245	-110.31	-111.97	1.875
38.00	.2287	-105.61	-107.31	2.002
40.00	.2335	-100.56	-102.29	2.132
42.00	.2390	-95.11	-96.88	2.265
* 43.529	.2437	-90.61	-94.25	2.370
* 43.529	4.7201	87.97	53.03	6.475
44.00	4.8101	89.69	54.09	6.514
46.00	5.1743	96.56	58.26	6.667
48.00	5.5182	102.93	62.08	6.802
50.00	5.8487	108.98	65.69	6.926
52.00	6.1699	114.83	69.16	7.041
54.00	6.4842	120.53	72.54	7.148
56.00	6.7932	126.14	75.85	7.250
58.00	7.0978	131.66	79.12	7.347
60.00	7.3990	137.12	82.35	7.440
62.00	7.6973	142.53	85.56	7.528
64.00	7.9930	147.91	88.74	7.614
66.00	8.2865	153.25	91.91	7.696
68.00	8.5781	158.56	95.07	7.775
70.00	8.8680	163.85	98.21	7.852
72.00	9.1564	169.12	101.34	7.926
74.00	9.4433	174.37	104.47	7.998
76.00	9.7290	179.60	107.59	8.068
78.00	10.0136	184.82	110.70	8.135
80.00	10.2971	190.03	113.81	8.201
82.00	10.5796	195.23	116.92	8.266
84.00	10.8613	200.42	120.03	8.328
86.00	11.1421	205.61	123.13	8.389
88.00	11.4222	210.79	126.24	8.449
90.00	11.7016	215.96	129.34	8.507
92.00	11.9803	221.13	132.45	8.564
94.00	12.2585	226.31	135.57	8.619
96.00	12.5360	231.48	138.69	8.674
98.00	12.8131	236.66	141.81	8.727
100.00	13.0896	241.84	144.95	8.779
102.00	13.3657	247.02	148.09	8.831
104.00	13.6413	252.21	151.24	8.881
106.00	13.9166	257.42	154.40	8.931
108.00	14.1914	262.63	157.58	8.979
110.00	14.4659	267.85	160.77	9.027
112.00	14.7401	273.08	163.98	9.074
114.00	15.0139	278.33	167.20	9.121
116.00	15.2875	283.60	170.44	9.167
118.00	15.5607	288.88	173.70	9.212
120.00	15.8337	294.19	176.98	9.256
122.00	16.1064	299.51	180.29	9.300
124.00	16.3789	304.86	183.62	9.344
126.00	16.6512	310.22	186.97	9.387
128.00	16.9232	315.62	190.35	9.429
130.00	17.1951	321.04	193.76	9.471
132.00	17.4667	326.49	197.20	9.513
134.00	17.7382	331.97	200.67	9.554
136.00	18.0094	337.48	204.18	9.595
138.00	18.2805	343.03	207.71	9.635
140.00	18.5515	348.61	211.29	9.676
142.00	18.8223	354.22	214.89	9.715
144.00	19.0929	359.87	218.54	9.755
146.00	19.3634	365.56	222.23	9.794
148.00	19.6338	371.28	225.95	9.833
150.00	19.9041	377.05	229.72	9.872
152.00	20.1742	382.86	233.53	9.910
154.00	20.4442	388.71	237.38	9.949
156.00	20.7141	394.60	241.27	9.987
158.00	20.9839	400.53	245.21	10.024
160.00	21.2536	406.51	249.19	10.062
162.00	21.5232	412.53	253.22	10.099
164.00	21.7926	418.60	257.29	10.137
166.00	22.0620	424.72	261.41	10.174
168.00	22.3314	430.88	265.58	10.210
170.00	22.6006	437.08	269.79	10.247
172.00	22.8697	443.33	274.04	10.284
174.00	23.1388	449.62	278.34	10.320
176.00	23.4078	455.96	282.69	10.356
178.00	23.6767	462.34	287.08	10.392
180.00	23.9456	468.76	291.51	10.428
182.00	24.2143	475.23	295.99	10.464
184.00	24.4830	481.73	300.51	10.500
186.00	24.7515	488.28	305.07	10.535
188.00	25.0200	494.88	309.68	10.570
190.00	25.2884	501.52	314.33	10.605
192.00	25.5568	508.20	319.02	10.640
194.00	25.8251	514.92	323.76	10.675
196.00	26.0933	521.69	328.54	10.710
198.00	26.3615	528.49	333.36	10.744
200.00	26.6297	535.34	338.23	10.779
202.00	26.8977	542.23	343.13	10.813
204.00	27.1658	549.16	348.08	10.847
206.00	27.4338	556.13	353.06	10.881
208.00	27.7017	563.13	358.08	10.915
210.00	27.9696	570.17	363.14	10.949
212.00	28.2375	577.25	368.24	10.982
214.00	28.5053	584.37	373.37	11.016
216.00	28.7730	591.52	378.54	11.049
218.00	29.0408	598.70	383.74	11.082
220.00	29.3085	605.91	388.97	11.115
222.00	29.5762	613.16	394.23	11.148
224.00	29.8438	620.43	399.53	11.180
226.00	30.1115	627.74	404.85	11.213
228.00	30.3791	635.08	410.21	11.245
230.00	30.6466	642.44	415.59	11.277
232.00	30.9142	649.84	421.01	11.309
234.00	31.1817	657.26	426.45	11.341
236.00	31.4492	664.71	431.92	11.373
238.00	31.7167	672.18	437.41	11.404
240.00	31.9841	679.68	442.93	11.436
242.00	32.2516	687.20	448.47	11.467
244.00	32.5190	694.75	454.04	11.498
246.00	32.7864	702.31	459.62	11.529
248.00	33.0538	709.90	465.23	11.560
250.00	33.3212	717.51	470.86	11.590
252.00	33.5885	725.14	476.51	11.621
254.00	33.8559	732.79	482.18	11.651
256.00	34.1232	740.45	487.87	11.681
258.00	34.3905	748.13	493.57	11.711
260.00	34.6578	755.83	499.29	11.741

* PHASE CHANGE

TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)	TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)
262.00	34.9250	763.55	505.03	11.770	402.00	53.6031	1304.65	907.88	13.427
264.00	35.1923	771.27	510.78	11.799	404.00	53.8698	1312.16	913.41	13.445
266.00	35.4595	779.02	516.54	11.829	406.00	54.1364	1319.66	918.93	13.464
268.00	35.7268	786.77	522.32	11.858	408.00	54.4031	1327.15	924.45	13.482
270.00	35.9940	794.54	528.11	11.887	410.00	54.6697	1334.63	929.96	13.500
272.00	36.2612	802.29	533.88	11.915	412.00	54.9364	1342.10	935.46	13.519
274.00	36.5283	810.05	539.66	11.944	414.00	55.2030	1349.57	940.95	13.537
276.00	36.7955	817.82	545.46	11.972	416.00	55.4698	1357.02	946.43	13.555
278.00	37.0626	825.60	551.26	12.000	418.00	55.7365	1364.47	951.90	13.573
280.00	37.3297	833.38	557.06	12.028	420.00	56.0033	1371.91	957.37	13.590
282.00	37.5969	841.17	562.88	12.056	422.00	56.2700	1379.34	962.83	13.608
284.00	37.8639	848.97	568.70	12.083	424.00	56.5367	1386.77	968.28	13.626
286.00	38.1310	856.77	574.52	12.111	426.00	56.8033	1394.18	973.72	13.643
288.00	38.3981	864.58	580.36	12.138	428.00	57.0700	1401.59	979.15	13.660
290.00	38.6651	872.39	586.19	12.165	430.00	57.3366	1408.98	984.57	13.678
292.00	38.9322	880.21	592.03	12.192	432.00	57.6032	1416.37	989.99	13.695
294.00	39.1992	888.03	597.87	12.218	434.00	57.8697	1423.75	995.39	13.712
296.00	39.4662	895.85	603.72	12.245	436.00	58.1362	1431.12	1000.79	13.729
298.00	39.7331	903.67	609.56	12.271	438.00	58.4026	1438.48	1006.18	13.746
300.00	40.0001	911.50	615.41	12.297	440.00	58.6690	1445.83	1011.56	13.762
302.00	40.2671	919.32	621.26	12.323	442.00	58.9353	1453.18	1016.93	13.779
304.00	40.5340	927.15	627.11	12.349	444.00	59.2016	1460.52	1022.30	13.795
306.00	40.8009	934.98	632.96	12.375	446.00	59.4678	1467.84	1027.66	13.812
308.00	41.0678	942.80	638.82	12.400	448.00	59.7340	1475.16	1033.00	13.828
310.00	41.3347	950.63	644.67	12.426	450.00	60.0001	1482.47	1038.35	13.845
312.00	41.6016	958.46	650.52	12.451	452.00	60.2661	1489.79	1043.70	13.861
314.00	41.8685	966.28	656.36	12.476	454.00	60.5321	1497.11	1049.04	13.877
316.00	42.1354	974.10	662.21	12.501	456.00	60.7980	1504.41	1054.38	13.893
318.00	42.4022	981.92	668.05	12.525	458.00	61.0639	1511.71	1059.70	13.909
320.00	42.6691	989.73	673.89	12.550	460.00	61.3297	1519.00	1065.03	13.925
322.00	42.9359	997.55	679.73	12.574	462.00	61.5955	1526.28	1070.34	13.941
324.00	43.2027	1005.36	685.57	12.598	464.00	61.8612	1533.55	1075.65	13.956
326.00	43.4696	1013.16	691.40	12.622	466.00	62.1269	1540.82	1080.95	13.972
328.00	43.7364	1020.96	697.22	12.646	468.00	62.3925	1548.08	1086.24	13.988
330.00	44.0032	1028.76	703.05	12.670	470.00	62.6581	1555.33	1091.53	14.003
332.00	44.2700	1036.55	708.86	12.693	472.00	62.9237	1562.58	1096.81	14.018
334.00	44.5367	1044.34	714.68	12.717	474.00	63.1892	1569.82	1102.08	14.034
336.00	44.8035	1052.12	720.48	12.740	476.00	63.4548	1577.05	1107.35	14.049
338.00	45.0703	1059.90	726.28	12.763	478.00	63.7203	1584.28	1112.61	14.064
340.00	45.3371	1067.67	732.08	12.786	480.00	63.9858	1591.50	1117.87	14.079
342.00	45.6038	1075.43	737.87	12.809	482.00	64.2514	1598.72	1123.12	14.094
344.00	45.8706	1083.19	743.65	12.831	484.00	64.5169	1605.93	1128.37	14.109
346.00	46.1373	1090.94	749.43	12.854	486.00	64.7825	1613.13	1133.61	14.124
348.00	46.4040	1098.69	755.20	12.876	488.00	65.0481	1620.33	1138.84	14.139
350.00	46.6708	1106.43	760.96	12.898	490.00	65.3138	1627.53	1144.07	14.153
352.00	46.9375	1114.16	766.72	12.920	492.00	65.5795	1634.72	1149.29	14.168
354.00	47.2042	1121.88	772.47	12.942	494.00	65.8453	1641.91	1154.51	14.183
356.00	47.4709	1129.60	778.21	12.964	496.00	66.1112	1649.09	1159.73	14.197
358.00	47.7377	1137.30	783.94	12.986	498.00	66.3771	1656.27	1164.94	14.212
360.00	48.0044	1145.00	789.67	13.007	500.00	66.6432	1663.45	1170.14	14.226
362.00	48.2710	1152.69	795.38	13.028	502.00	66.9093	1670.62	1175.35	14.240
364.00	48.5376	1160.37	801.09	13.050	504.00	67.1755	1677.78	1180.54	14.255
366.00	48.8042	1168.04	806.79	13.071	506.00	67.4419	1684.95	1185.74	14.269
368.00	49.0708	1175.70	812.48	13.091	508.00	67.7084	1692.11	1190.93	14.283
370.00	49.3374	1183.36	818.16	13.112	510.00	67.9750	1699.27	1196.11	14.297
372.00	49.6040	1191.00	823.83	13.133	512.00	68.2417	1706.43	1201.29	14.311
374.00	49.8706	1198.64	829.49	13.153	514.00	68.5086	1713.58	1206.47	14.325
376.00	50.1372	1206.27	835.15	13.174	516.00	68.7756	1720.73	1211.64	14.339
378.00	50.4038	1213.89	840.80	13.194	518.00	69.0427	1727.88	1216.81	14.353
380.00	50.6704	1221.50	846.43	13.214	520.00	69.3100	1735.02	1221.98	14.366
382.00	50.9370	1229.10	852.06	13.234	522.00	69.5774	1742.16	1227.14	14.380
384.00	51.2036	1236.70	857.68	13.254	524.00	69.8449	1749.30	1232.30	14.394
386.00	51.4702	1244.28	863.30	13.273	526.00	70.1126	1756.44	1237.46	14.407
388.00	51.7368	1251.86	868.90	13.293	528.00	70.3803	1763.57	1242.61	14.421
390.00	52.0034	1259.43	874.49	13.312	530.00	70.6482	1770.71	1247.76	14.434
392.00	52.2700	1266.99	880.08	13.332	532.00	70.9161	1777.83	1252.90	14.448
394.00	52.5366	1274.54	885.66	13.351	534.00	71.1841	1784.96	1258.05	14.461
396.00	52.8032	1282.08	891.23	13.370	536.00	71.4522	1792.08	1263.18	14.474
398.00	53.0699	1289.61	896.78	13.389	538.00	71.7202	1799.20	1268.32	14.488
400.00	53.3365	1297.14	902.34	13.408	540.00	71.9883	1806.31	1273.45	14.501

50.00 PSIA ISOBAR

TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)
36.00	.2242	-110.03	-112.10	1.872
38.00	.2284	-105.35	-107.46	1.998
40.00	.2331	-100.32	-102.48	2.127
42.00	.2385	-94.89	-97.10	2.259
44.00	.2449	-88.99	-91.26	2.397
* 45.400	.2498	-84.51	-89.17	2.497
* 45.400	3.7977	88.30	53.17	6.306
46.00	3.8957	90.65	54.61	6.358
48.00	4.2032	97.90	59.01	6.512
50.00	4.4908	104.55	63.00	6.648
52.00	4.7655	110.83	66.74	6.771
54.00	5.0312	116.87	70.31	6.885
56.00	5.2903	122.73	73.78	6.991
58.00	5.5442	128.48	77.18	7.092
60.00	5.7940	134.13	80.52	7.188
62.00	6.0404	139.70	83.81	7.279
64.00	6.2840	145.22	87.08	7.367
66.00	6.5252	150.69	90.32	7.451
68.00	6.7643	156.12	93.53	7.532
70.00	7.0015	161.52	96.74	7.610
72.00	7.2371	166.89	99.92	7.686
74.00	7.4712	172.23	103.10	7.759
76.00	7.7040	177.55	106.26	7.830
78.00	7.9356	182.85	109.42	7.899
80.00	8.1661	188.13	112.57	7.966
82.00	8.3956	193.40	115.72	8.031
84.00	8.6242	198.66	118.86	8.094
86.00	8.8519	203.90	122.00	8.156
88.00	9.0789	209.14	125.14	8.216
90.00	9.3051	214.37	128.28	8.275
92.00	9.5307	219.60	131.42	8.332
94.00	9.7556	224.82	134.56	8.389
96.00	9.9800	230.05	137.70	8.444
98.00	10.2039	235.27	140.86	8.497
100.00	10.4272	240.49	144.01	8.550
102.00	10.6501	245.72	147.18	8.602
104.00	10.8725	250.95	150.35	8.653
106.00	11.0945	256.19	153.54	8.703
108.00	11.3161	261.44	156.73	8.752
110.00	11.5374	266.70	159.95	8.800
112.00	11.7583	271.97	163.17	8.847
114.00	11.9789	277.25	166.41	8.894
116.00	12.1992	282.55	169.67	8.940
118.00	12.4192	287.86	172.95	8.986
120.00	12.6390	293.19	176.25	9.030
122.00	12.8585	298.54	179.57	9.075
124.00	13.0777	303.92	182.91	9.118
126.00	13.2967	309.31	186.28	9.162
128.00	13.5155	314.73	189.68	9.204
130.00	13.7341	320.18	193.10	9.246
132.00	13.9525	325.65	196.55	9.288
134.00	14.1707	331.15	200.04	9.330
136.00	14.3887	336.69	203.55	9.371
138.00	14.6065	342.25	207.10	9.411
140.00	14.8242	347.85	210.69	9.451
142.00	15.0418	353.48	214.31	9.491
144.00	15.2591	359.15	217.96	9.531
146.00	15.4764	364.86	221.66	9.570
148.00	15.6935	370.60	225.39	9.609
150.00	15.9105	376.38	229.17	9.648
152.00	16.1274	382.21	232.99	9.687
154.00	16.3441	388.07	236.85	9.725
156.00	16.5608	393.98	240.75	9.763
158.00	16.7773	399.93	244.70	9.801
160.00	16.9937	405.92	248.69	9.839
162.00	17.2100	411.96	252.72	9.876
164.00	17.4263	418.04	256.81	9.914
166.00	17.6424	424.17	260.93	9.951
168.00	17.8585	430.34	265.11	9.988
170.00	18.0744	436.56	269.32	10.025
172.00	18.2903	442.82	273.59	10.061
174.00	18.5061	449.13	277.90	10.098
176.00	18.7219	455.48	282.25	10.134
178.00	18.9376	461.87	286.65	10.170
180.00	19.1532	468.30	291.08	10.206
182.00	19.3686	474.78	295.57	10.242
184.00	19.5840	481.29	300.09	10.277
186.00	19.7993	487.85	304.66	10.313
188.00	20.0145	494.46	309.27	10.348
190.00	20.2297	501.10	313.93	10.383
192.00	20.4448	507.79	318.62	10.418
194.00	20.6599	514.53	323.37	10.453
196.00	20.8749	521.30	328.15	10.488
198.00	21.0898	528.12	332.98	10.523
200.00	21.3047	534.97	337.85	10.557
202.00	21.5196	541.87	342.75	10.591
204.00	21.7344	548.80	347.70	10.626
206.00	21.9491	555.78	352.69	10.660
208.00	22.1638	562.79	357.72	10.693
210.00	22.3785	569.84	362.78	10.727
212.00	22.5931	576.93	367.88	10.761
214.00	22.8077	584.05	373.02	10.794
216.00	23.0223	591.21	378.19	10.827
218.00	23.2368	598.39	383.39	10.861
220.00	23.4512	605.61	388.63	10.894
222.00	23.6657	612.87	393.90	10.926
224.00	23.8801	620.15	399.19	10.959
226.00	24.0945	627.46	404.52	10.992
228.00	24.3088	634.80	409.88	11.024
230.00	24.5232	642.18	415.27	11.056
232.00	24.7375	649.58	420.69	11.088
234.00	24.9518	657.00	426.13	11.120
236.00	25.1660	664.46	431.61	11.152
238.00	25.3803	671.94	437.10	11.183
240.00	25.5945	679.44	442.62	11.215
242.00	25.8087	686.97	448.17	11.246
244.00	26.0229	694.52	453.74	11.277
246.00	26.2370	702.09	459.33	11.308
248.00	26.4512	709.68	464.94	11.339
250.00	26.6653	717.30	470.57	11.369
252.00	26.8794	724.93	476.22	11.400
254.00	27.0935	732.58	481.90	11.430
256.00	27.3076	740.25	487.58	11.460
258.00	27.5217	747.94	493.29	11.490
260.00	27.7357	755.64	499.01	11.520

*PHASE CHANGE

TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)	TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)
262.00	27.9497	763.36	504.75	11.549	402.00	42.9013	1304.66	907.71	13.206
264.00	28.1637	771.09	510.50	11.579	404.00	43.1147	1312.17	913.25	13.225
266.00	28.3777	778.84	516.27	11.608	406.00	43.3281	1319.67	918.77	13.243
268.00	28.5917	786.60	522.05	11.637	408.00	43.5415	1327.16	924.29	13.262
270.00	28.8057	794.37	527.84	11.666	410.00	43.7549	1334.65	929.80	13.280
272.00	29.0196	802.12	533.61	11.694	412.00	43.9683	1342.12	935.30	13.298
274.00	29.2335	809.89	539.40	11.723	414.00	44.1817	1349.58	940.79	13.316
276.00	29.4474	817.66	545.19	11.751	416.00	44.3952	1357.04	946.27	13.334
278.00	29.6613	825.44	551.00	11.779	418.00	44.6086	1364.49	951.75	13.352
280.00	29.8752	833.23	556.80	11.807	420.00	44.8221	1371.94	957.21	13.370
282.00	30.0891	841.02	562.62	11.835	422.00	45.0355	1379.37	962.67	13.388
284.00	30.3029	848.83	568.44	11.862	424.00	45.2490	1386.79	968.12	13.405
286.00	30.5168	856.63	574.27	11.890	426.00	45.4624	1394.21	973.56	13.423
288.00	30.7306	864.44	580.10	11.917	428.00	45.6757	1401.62	979.00	13.440
290.00	30.9444	872.26	585.94	11.944	430.00	45.8891	1409.01	984.42	13.457
292.00	31.1582	880.08	591.78	11.971	432.00	46.1024	1416.40	989.83	13.474
294.00	31.3719	887.90	597.62	11.998	434.00	46.3157	1423.78	995.24	13.491
296.00	31.5857	895.72	603.47	12.024	436.00	46.5289	1431.16	1000.64	13.508
298.00	31.7995	903.55	609.32	12.050	438.00	46.7422	1438.52	1006.03	13.525
300.00	32.0132	911.38	615.17	12.077	440.00	46.9553	1445.87	1011.41	13.542
302.00	32.2269	919.21	621.02	12.103	442.00	47.1685	1453.22	1016.79	13.559
304.00	32.4406	927.04	626.87	12.128	444.00	47.3815	1460.56	1022.15	13.575
306.00	32.6543	934.87	632.73	12.154	446.00	47.5946	1467.89	1027.51	13.592
308.00	32.8680	942.70	638.58	12.180	448.00	47.8076	1475.21	1032.86	13.608
310.00	33.0816	950.52	644.43	12.205	450.00	48.0205	1482.52	1038.20	13.624
312.00	33.2953	958.35	650.28	12.230	452.00	48.2334	1489.84	1043.55	13.641
314.00	33.5089	966.18	656.13	12.255	454.00	48.4463	1497.16	1048.90	13.657
316.00	33.7226	974.00	661.98	12.280	456.00	48.6591	1504.46	1054.24	13.673
318.00	33.9362	981.82	667.82	12.305	458.00	48.8718	1511.76	1059.57	13.689
320.00	34.1498	989.64	673.67	12.329	460.00	49.0846	1519.05	1064.89	13.705
322.00	34.3634	997.46	679.51	12.354	462.00	49.2972	1526.33	1070.20	13.720
324.00	34.5770	1005.27	685.34	12.378	464.00	49.5099	1533.61	1075.51	13.736
326.00	34.7906	1013.08	691.18	12.402	466.00	49.7225	1540.88	1080.81	13.752
328.00	35.0042	1020.88	697.00	12.426	468.00	49.9350	1548.14	1086.11	13.767
330.00	35.2177	1028.68	702.83	12.449	470.00	50.1476	1555.39	1091.40	13.783
332.00	35.4313	1036.48	708.65	12.473	472.00	50.3601	1562.64	1096.68	13.798
334.00	35.6448	1044.27	714.46	12.496	474.00	50.5726	1569.88	1101.95	13.813
336.00	35.8584	1052.05	720.27	12.519	476.00	50.7851	1577.12	1107.22	13.829
338.00	36.0719	1059.83	726.07	12.543	478.00	50.9976	1584.35	1112.49	13.844
340.00	36.2854	1067.61	731.87	12.565	480.00	51.2101	1591.57	1117.74	13.859
342.00	36.4990	1075.37	737.66	12.588	482.00	51.4225	1598.79	1122.99	13.874
344.00	36.7125	1083.14	743.45	12.611	484.00	51.6350	1606.00	1128.24	13.889
346.00	36.9260	1090.89	749.23	12.633	486.00	51.8476	1613.21	1133.48	13.904
348.00	37.1395	1098.64	755.00	12.656	488.00	52.0601	1620.41	1138.72	13.919
350.00	37.3530	1106.38	760.76	12.678	490.00	52.2727	1627.61	1143.95	13.933
352.00	37.5665	1114.11	766.52	12.700	492.00	52.4853	1634.80	1149.17	13.948
354.00	37.7800	1121.84	772.27	12.722	494.00	52.6980	1641.99	1154.39	13.962
356.00	37.9935	1129.55	778.01	12.744	496.00	52.9108	1649.17	1159.61	13.977
358.00	38.2069	1137.26	783.75	12.765	498.00	53.1236	1656.35	1164.82	13.991
360.00	38.4204	1144.97	789.48	12.787	500.00	53.3364	1663.53	1170.03	14.006
362.00	38.6338	1152.66	795.19	12.808	502.00	53.5494	1670.70	1175.23	14.020
364.00	38.8472	1160.34	800.90	12.829	504.00	53.7624	1677.87	1180.43	14.034
366.00	39.0606	1168.01	806.60	12.850	506.00	53.9755	1685.04	1185.62	14.049
368.00	39.2740	1175.68	812.29	12.871	508.00	54.1888	1692.20	1190.81	14.063
370.00	39.4873	1183.33	817.97	12.892	510.00	54.4021	1699.36	1196.00	14.077
372.00	39.7007	1190.98	823.65	12.912	512.00	54.6155	1706.52	1201.18	14.091
374.00	39.9141	1198.62	829.31	12.933	514.00	54.8291	1713.67	1206.36	14.105
376.00	40.1274	1206.25	834.97	12.953	516.00	55.0427	1720.82	1211.53	14.119
378.00	40.3408	1213.88	840.62	12.973	518.00	55.2564	1727.97	1216.70	14.132
380.00	40.5542	1221.49	846.26	12.993	520.00	55.4703	1735.11	1221.87	14.146
382.00	40.7675	1229.09	851.89	13.013	522.00	55.6842	1742.26	1227.03	14.160
384.00	40.9809	1236.69	857.51	13.033	524.00	55.8983	1749.40	1232.19	14.174
386.00	41.1943	1244.28	863.12	13.053	526.00	56.1124	1756.54	1237.35	14.187
388.00	41.4076	1251.86	868.73	13.073	528.00	56.3266	1763.67	1242.50	14.201
390.00	41.6210	1259.43	874.32	13.092	530.00	56.5409	1770.80	1247.65	14.214
392.00	41.8344	1266.99	879.91	13.111	532.00	56.7553	1777.93	1252.79	14.228
394.00	42.0478	1274.54	885.49	13.131	534.00	56.9697	1785.06	1257.94	14.241
396.00	42.2612	1282.08	891.06	13.150	536.00	57.1842	1792.18	1263.07	14.254
398.00	42.4745	1289.62	896.62	13.169	538.00	57.3986	1799.30	1268.21	14.268
400.00	42.6879	1297.15	902.17	13.188	540.00	57.6131	1806.41	1273.34	14.281

60.00 PSIA ISOBAR

TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)
36.00	.2239	-109.74	-112.23	1.868
38.00	.2281	-105.08	-107.61	1.994
40.00	.2327	-100.08	-102.66	2.122
42.00	.2381	-94.68	-97.32	2.254
44.00	.2443	-88.81	-91.53	2.390
46.00	.2517	-82.37	-85.17	2.533
* 47.022	.2559	-78.80	-84.53	2.610
* 47.022	3.1644	88.04	52.91	6.162
48.00	3.3052	92.10	55.40	6.247
50.00	3.5718	99.62	59.96	6.401
52.00	3.8198	106.49	64.08	6.536
54.00	4.0558	112.95	67.92	6.658
56.00	4.2833	119.15	71.59	6.770
58.00	4.5046	125.15	75.14	6.876
60.00	4.7210	131.02	78.60	6.975
62.00	4.9335	136.78	82.01	7.070
64.00	5.1429	142.46	85.36	7.160
66.00	5.3495	148.08	88.68	7.246
68.00	5.5539	153.63	91.97	7.329
70.00	5.7563	159.14	95.23	7.409
72.00	5.9569	164.62	98.48	7.486
74.00	6.1559	170.06	101.71	7.560
76.00	6.3535	175.46	104.92	7.633
78.00	6.5499	180.85	108.12	7.703
80.00	6.7452	186.21	111.32	7.770
82.00	6.9394	191.55	114.50	7.836
84.00	7.1326	196.88	117.68	7.901
86.00	7.3250	202.19	120.86	7.963
88.00	7.5166	207.49	124.03	8.024
90.00	7.7074	212.78	127.20	8.083
92.00	7.8976	218.06	130.37	8.141
94.00	8.0871	223.33	133.54	8.198
96.00	8.2761	228.61	136.71	8.254
98.00	8.4645	233.88	139.89	8.308
100.00	8.6524	239.14	143.07	8.361
102.00	8.8398	244.41	146.26	8.413
104.00	9.0267	249.69	149.46	8.465
106.00	9.2133	254.97	152.67	8.515
108.00	9.3994	260.25	155.89	8.564
110.00	9.5852	265.54	159.12	8.613
112.00	9.7707	270.85	162.36	8.661
114.00	9.9558	276.16	165.62	8.708
116.00	10.1406	281.49	168.90	8.754
118.00	10.3251	286.84	172.19	8.800
120.00	10.5093	292.20	175.51	8.845
122.00	10.6933	297.58	178.85	8.889
124.00	10.8771	302.98	182.21	8.933
126.00	11.0606	308.40	185.59	8.976
128.00	11.2439	313.84	189.00	9.019
130.00	11.4269	319.31	192.44	9.062
132.00	11.6098	324.81	195.90	9.104
134.00	11.7925	330.33	199.40	9.145
136.00	11.9750	335.89	202.93	9.186
138.00	12.1574	341.48	206.49	9.227
140.00	12.3396	347.09	210.09	9.268
142.00	12.5216	352.75	213.72	9.308
144.00	12.7035	358.43	217.39	9.347
146.00	12.8852	364.16	221.09	9.387
148.00	13.0668	369.92	224.84	9.426
150.00	13.2483	375.72	228.62	9.465
152.00	13.4296	381.56	232.45	9.504
154.00	13.6109	387.44	236.32	9.542
156.00	13.7920	393.37	240.23	9.580
158.00	13.9730	399.33	244.19	9.618
160.00	14.1540	405.34	248.19	9.656
162.00	14.3348	411.39	252.23	9.694
164.00	14.5155	417.49	256.32	9.731
166.00	14.6961	423.63	260.46	9.768
168.00	14.8767	429.81	264.64	9.805
170.00	15.0571	436.04	268.86	9.842
172.00	15.2375	442.32	273.13	9.879
174.00	15.4178	448.63	277.45	9.915
176.00	15.5981	454.99	281.81	9.952
178.00	15.7782	461.40	286.21	9.988
180.00	15.9583	467.84	290.66	10.024
182.00	16.1383	474.33	295.14	10.060
184.00	16.3182	480.86	299.67	10.095
186.00	16.4980	487.43	304.25	10.131
188.00	16.6777	494.04	308.86	10.166
190.00	16.8574	500.69	313.52	10.202
192.00	17.0370	507.39	318.23	10.237
194.00	17.2166	514.13	322.97	10.272
196.00	17.3961	520.92	327.76	10.306
198.00	17.5755	527.74	332.59	10.341
200.00	17.7549	534.60	337.47	10.375
202.00	17.9343	541.51	342.38	10.410
204.00	18.1136	548.45	347.33	10.444
206.00	18.2928	555.43	352.32	10.478
208.00	18.4721	562.45	357.35	10.512
210.00	18.6512	569.51	362.42	10.546
212.00	18.8304	576.60	367.53	10.579
214.00	19.0094	583.73	372.67	10.613
216.00	19.1885	590.90	377.84	10.646
218.00	19.3675	598.09	383.05	10.679
220.00	19.5465	605.32	388.29	10.712
222.00	19.7255	612.57	393.56	10.745
224.00	19.9044	619.86	398.86	10.778
226.00	20.0833	627.18	404.19	10.810
228.00	20.2622	634.53	409.56	10.843
230.00	20.4410	641.91	414.95	10.875
232.00	20.6198	649.32	420.37	10.907
234.00	20.7986	656.75	425.82	10.939
236.00	20.9774	664.21	431.29	10.971
238.00	21.1561	671.69	436.79	11.002
240.00	21.3349	679.20	442.32	11.034
242.00	21.5136	686.73	447.87	11.065
244.00	21.6923	694.29	453.44	11.096
246.00	21.8709	701.87	459.03	11.127
248.00	22.0496	709.47	464.64	11.158
250.00	22.2282	717.08	470.28	11.188
252.00	22.4068	724.72	475.94	11.219
254.00	22.5854	732.38	481.61	11.249
256.00	22.7640	740.05	487.30	11.279
258.00	22.9426	747.74	493.01	11.309
260.00	23.1211	755.45	498.73	11.339

* PHASE CHANGE

TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)	TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)
262.00	23.2996	763.17	504.47	11.368	402.00	35.7668	1304.67	907.55	13.026
264.00	23.4782	770.91	510.23	11.398	404.00	35.9447	1312.18	913.08	13.045
266.00	23.6567	778.66	515.99	11.427	406.00	36.1226	1319.69	918.61	13.063
268.00	23.8351	786.42	521.78	11.456	408.00	36.3005	1327.18	924.13	13.082
270.00	24.0136	794.20	527.57	11.485	410.00	36.4784	1334.66	929.64	13.100
272.00	24.1921	801.96	533.35	11.514	412.00	36.6562	1342.14	935.14	13.118
274.00	24.3705	809.72	539.13	11.542	414.00	36.8341	1349.60	940.63	13.136
276.00	24.5489	817.50	544.93	11.570	416.00	37.0121	1357.07	946.11	13.154
278.00	24.7273	825.29	550.73	11.598	418.00	37.1900	1364.52	951.59	13.172
280.00	24.9057	833.08	556.55	11.626	420.00	37.3679	1371.96	957.06	13.190
282.00	25.0841	840.88	562.36	11.654	422.00	37.5459	1379.40	962.52	13.208
284.00	25.2624	848.68	568.19	11.682	424.00	37.7238	1386.82	967.97	13.225
286.00	25.4408	856.49	574.02	11.709	426.00	37.9016	1394.24	973.41	13.243
288.00	25.6191	864.30	579.85	11.736	428.00	38.0795	1401.65	978.84	13.260
290.00	25.7974	872.12	585.69	11.763	430.00	38.2573	1409.05	984.27	13.277
292.00	25.9757	879.94	591.53	11.790	432.00	38.4352	1416.44	989.69	13.294
294.00	26.1540	887.77	597.38	11.817	434.00	38.6130	1423.82	995.09	13.311
296.00	26.3322	895.60	603.23	11.844	436.00	38.7907	1431.19	1000.49	13.328
298.00	26.5105	903.43	609.08	11.870	438.00	38.9684	1438.56	1005.89	13.345
300.00	26.6887	911.26	614.93	11.896	440.00	39.1461	1445.91	1011.27	13.362
302.00	26.8670	919.09	620.78	11.922	442.00	39.3238	1453.26	1016.64	13.379
304.00	27.0452	926.92	626.64	11.948	444.00	39.5014	1460.60	1022.01	13.395
306.00	27.2234	934.76	632.49	11.974	446.00	39.6790	1467.93	1027.37	13.412
308.00	27.4016	942.59	638.35	11.999	448.00	39.8565	1475.25	1032.72	13.428
310.00	27.5797	950.42	644.20	12.025	450.00	40.0340	1482.57	1038.06	13.444
312.00	27.7579	958.25	650.05	12.050	452.00	40.2115	1489.89	1043.42	13.461
314.00	27.9361	966.08	655.90	12.075	454.00	40.3889	1497.21	1048.76	13.477
316.00	28.1142	973.91	661.75	12.100	456.00	40.5663	1504.51	1054.10	13.493
318.00	28.2923	981.73	667.60	12.124	458.00	40.7437	1511.81	1059.43	13.509
320.00	28.4704	989.55	673.44	12.149	460.00	40.9210	1519.11	1064.75	13.525
322.00	28.6486	997.37	679.28	12.173	462.00	41.0983	1526.39	1070.07	13.540
324.00	28.8267	1005.19	685.12	12.197	464.00	41.2756	1533.67	1075.38	13.556
326.00	29.0048	1013.00	690.96	12.221	466.00	41.4528	1540.94	1080.68	13.572
328.00	29.1828	1020.81	696.79	12.245	468.00	41.6300	1548.20	1085.98	13.587
330.00	29.3609	1028.61	702.61	12.269	470.00	41.8072	1555.46	1091.27	13.603
332.00	29.5390	1036.41	708.43	12.292	472.00	41.9843	1562.71	1096.55	13.618
334.00	29.7170	1044.20	714.25	12.316	474.00	42.1615	1569.95	1101.83	13.633
336.00	29.8951	1051.99	720.06	12.339	476.00	42.3386	1577.19	1107.10	13.649
338.00	30.0731	1059.77	725.86	12.362	478.00	42.5157	1584.42	1112.36	13.664
340.00	30.2512	1067.55	731.66	12.385	480.00	42.6929	1591.64	1117.62	13.679
342.00	30.4292	1075.32	737.46	12.408	482.00	42.8700	1598.86	1122.87	13.694
344.00	30.6072	1083.08	743.24	12.431	484.00	43.0472	1606.08	1128.12	13.709
346.00	30.7852	1090.84	749.02	12.453	486.00	43.2243	1613.28	1133.36	13.724
348.00	30.9633	1098.59	754.80	12.475	488.00	43.4015	1620.49	1138.59	13.739
350.00	31.1413	1106.33	760.56	12.498	490.00	43.5787	1627.69	1143.82	13.753
352.00	31.3193	1114.07	766.32	12.520	492.00	43.7560	1634.88	1149.05	13.768
354.00	31.4972	1121.79	772.07	12.542	494.00	43.9332	1642.07	1154.27	13.782
356.00	31.6752	1129.51	777.82	12.563	496.00	44.1106	1649.26	1159.49	13.797
358.00	31.8532	1137.23	783.56	12.585	498.00	44.2880	1656.44	1164.70	13.811
360.00	32.0312	1144.93	789.28	12.606	500.00	44.4654	1663.61	1169.91	13.826
362.00	32.2091	1152.62	795.00	12.628	502.00	44.6429	1670.79	1175.11	13.840
364.00	32.3870	1160.31	800.71	12.649	504.00	44.8205	1677.96	1180.31	13.854
366.00	32.5649	1167.98	806.41	12.670	506.00	44.9981	1685.12	1185.50	13.869
368.00	32.7428	1175.65	812.10	12.691	508.00	45.1759	1692.29	1190.69	13.883
370.00	32.9207	1183.31	817.79	12.711	510.00	45.3537	1699.45	1195.88	13.897
372.00	33.0986	1190.96	823.46	12.732	512.00	45.5315	1706.61	1201.06	13.911
374.00	33.2765	1198.60	829.13	12.753	514.00	45.7095	1713.76	1206.24	13.925
376.00	33.4544	1206.24	834.79	12.773	516.00	45.8876	1720.91	1211.41	13.939
378.00	33.6322	1213.86	840.44	12.793	518.00	46.0657	1728.06	1216.59	13.952
380.00	33.8101	1221.48	846.08	12.813	520.00	46.2439	1735.21	1221.75	13.966
382.00	33.9880	1229.09	851.71	12.833	522.00	46.4222	1742.35	1226.92	13.980
384.00	34.1659	1236.68	857.33	12.853	524.00	46.6006	1749.49	1232.08	13.994
386.00	34.3438	1244.27	862.95	12.873	526.00	46.7791	1756.63	1237.23	14.007
388.00	34.5216	1251.85	868.55	12.892	528.00	46.9576	1763.76	1242.39	14.021
390.00	34.6995	1259.43	874.15	12.912	530.00	47.1362	1770.90	1247.54	14.034
392.00	34.8774	1266.99	879.74	12.931	532.00	47.3148	1778.03	1252.68	14.048
394.00	35.0553	1274.54	885.32	12.950	534.00	47.4935	1785.15	1257.82	14.061
396.00	35.2332	1282.09	890.89	12.970	536.00	47.6722	1792.28	1262.96	14.074
398.00	35.4110	1289.63	896.45	12.989	538.00	47.8509	1799.40	1268.10	14.088
400.00	35.5889	1297.15	902.00	13.007	540.00	48.0296	1806.51	1273.23	14.101

70.00 PSIA ISOBAR

TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)
36.00	.2237	-109.46	-112.35	1.864
38.00	.2277	-104.81	-107.76	1.990
40.00	.2324	-99.83	-102.84	2.118
42.00	.2376	-94.46	-97.54	2.249
44.00	.2437	-88.63	-91.79	2.384
46.00	.2509	-82.25	-85.50	2.526
48.00	.2598	-75.13	-78.50	2.677
* 48.464	.2620	-73.35	-80.19	2.714
* 48.464	2.7007	87.34	52.35	6.034
50.00	2.8995	94.02	56.46	6.170
52.00	3.1342	101.72	61.12	6.321
54.00	3.3521	108.74	65.32	6.453
56.00	3.5591	115.35	69.25	6.573
58.00	3.7583	121.67	72.99	6.684
60.00	3.9518	127.79	76.60	6.788
62.00	4.1408	133.77	80.13	6.886
64.00	4.3261	139.63	83.59	6.979
66.00	4.5085	145.40	87.00	7.068
68.00	4.6883	151.09	90.36	7.153
70.00	4.8660	156.73	93.70	7.235
72.00	5.0418	162.31	97.00	7.313
74.00	5.2159	167.85	100.29	7.389
76.00	5.3885	173.36	103.56	7.463
78.00	5.5599	178.83	106.81	7.534
80.00	5.7300	184.27	110.05	7.602
82.00	5.8991	189.69	113.27	7.669
84.00	6.0671	195.08	116.49	7.734
86.00	6.2343	200.46	119.70	7.798
88.00	6.4007	205.82	122.91	7.859
90.00	6.5663	211.17	126.11	7.919
92.00	6.7312	216.51	129.32	7.978
94.00	6.8954	221.84	132.52	8.035
96.00	7.0591	227.16	135.72	8.091
98.00	7.2222	232.48	138.92	8.146
100.00	7.3847	237.79	142.13	8.200
102.00	7.5468	243.10	145.35	8.252
104.00	7.7085	248.42	148.57	8.304
106.00	7.8697	253.74	151.80	8.355
108.00	8.0305	259.06	155.04	8.404
110.00	8.1909	264.39	158.29	8.453
112.00	8.3510	269.73	161.55	8.501
114.00	8.5108	275.08	164.83	8.549
116.00	8.6703	280.44	168.13	8.595
118.00	8.8294	285.81	171.44	8.641
120.00	8.9883	291.20	174.77	8.687
122.00	9.1469	296.61	178.12	8.731
124.00	9.3053	302.04	181.50	8.775
126.00	9.4635	307.48	184.90	8.819
128.00	9.6214	312.96	188.32	8.862
130.00	9.7791	318.45	191.77	8.905
132.00	9.9366	323.97	195.25	8.947
134.00	10.0940	329.52	198.76	8.989
136.00	10.2511	335.09	202.30	9.030
138.00	10.4081	340.70	205.88	9.071
140.00	10.5649	346.34	209.49	9.111
142.00	10.7216	352.01	213.13	9.152
144.00	10.8781	357.72	216.81	9.192
146.00	11.0345	363.46	220.52	9.231
148.00	11.1907	369.24	224.28	9.270
150.00	11.3469	375.06	228.08	9.309
152.00	11.5028	380.92	231.91	9.348
154.00	11.6587	386.81	235.79	9.387
156.00	11.8145	392.75	239.71	9.425
158.00	11.9701	398.73	243.68	9.463
160.00	12.1257	404.76	247.69	9.501
162.00	12.2811	410.82	251.74	9.539
164.00	12.4365	416.93	255.84	9.576
166.00	12.5918	423.09	259.98	9.614
168.00	12.7470	429.29	264.17	9.651
170.00	12.9021	435.53	268.40	9.688
172.00	13.0571	441.81	272.68	9.724
174.00	13.2120	448.14	277.00	9.761
176.00	13.3669	454.52	281.37	9.797
178.00	13.5217	460.93	285.78	9.834
180.00	13.6764	467.39	290.23	9.870
182.00	13.8310	473.88	294.72	9.906
184.00	13.9855	480.42	299.26	9.941
186.00	14.1399	487.00	303.84	9.977
188.00	14.2943	493.62	308.46	10.012
190.00	14.4486	500.29	313.12	10.048
192.00	14.6029	507.00	317.83	10.083
194.00	14.7571	513.74	322.59	10.118
196.00	14.9112	520.54	327.38	10.152
198.00	15.0653	527.37	332.22	10.187
200.00	15.2194	534.24	337.09	10.222
202.00	15.3734	541.15	342.01	10.256
204.00	15.5273	548.10	346.97	10.290
206.00	15.6813	555.09	351.96	10.324
208.00	15.8351	562.12	357.00	10.358
210.00	15.9889	569.18	362.07	10.392
212.00	16.1427	576.28	367.18	10.426
214.00	16.2965	583.42	372.32	10.459
216.00	16.4502	590.59	377.50	10.493
218.00	16.6038	597.79	382.71	10.526
220.00	16.7575	605.02	387.95	10.559
222.00	16.9111	612.29	393.23	10.592
224.00	17.0647	619.58	398.53	10.624
226.00	17.2182	626.91	403.87	10.657
228.00	17.3717	634.26	409.23	10.689
230.00	17.5252	641.65	414.63	10.722
232.00	17.6787	649.06	420.05	10.754
234.00	17.8321	656.50	425.50	10.786
236.00	17.9856	663.96	430.98	10.817
238.00	18.1390	671.45	436.48	10.849
240.00	18.2923	678.96	442.01	10.880
242.00	18.4457	686.50	447.56	10.912
244.00	18.5990	694.06	453.14	10.943
246.00	18.7524	701.64	458.73	10.974
248.00	18.9057	709.25	464.35	11.005
250.00	19.0589	716.87	469.99	11.035
252.00	19.2122	724.51	475.64	11.066
254.00	19.3654	732.17	481.32	11.096
256.00	19.5187	739.85	487.01	11.126
258.00	19.6719	747.55	492.73	11.156
260.00	19.8251	755.26	498.45	11.186

* PHASE CHANGE

TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)	TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)
262.00	19.9782	762.99	504.19	11.215	402.00	30.6707	1304.68	907.38	12.874
264.00	20.1314	770.73	509.95	11.245	404.00	30.8232	1312.20	912.92	12.892
266.00	20.2845	778.48	515.72	11.274	406.00	30.9758	1319.70	918.45	12.911
268.00	20.4377	786.25	521.50	11.303	408.00	31.1283	1327.19	923.97	12.929
270.00	20.5908	794.03	527.30	11.332	410.00	31.2808	1334.68	929.48	12.948
272.00	20.7439	801.79	533.08	11.361	412.00	31.4334	1342.16	934.98	12.966
274.00	20.8970	809.56	538.87	11.389	414.00	31.5859	1349.63	940.47	12.984
276.00	21.0500	817.34	544.67	11.417	416.00	31.7385	1357.09	945.96	13.002
278.00	21.2031	825.13	550.47	11.446	418.00	31.8910	1364.54	951.44	13.020
280.00	21.3561	832.93	556.29	11.474	420.00	32.0436	1371.99	956.91	13.038
282.00	21.5091	840.73	562.11	11.501	422.00	32.1961	1379.42	962.37	13.055
284.00	21.6621	848.54	567.93	11.529	424.00	32.3487	1386.85	967.82	13.073
286.00	21.8151	856.35	573.76	11.556	426.00	32.5012	1394.27	973.26	13.090
288.00	21.9681	864.17	579.60	11.584	428.00	32.6537	1401.68	978.70	13.108
290.00	22.1210	871.99	585.44	11.611	430.00	32.8062	1409.08	984.12	13.125
292.00	22.2740	879.82	591.29	11.638	432.00	32.9586	1416.48	989.54	13.142
294.00	22.4269	887.65	597.13	11.664	434.00	33.1111	1423.86	994.95	13.159
296.00	22.5798	895.48	602.98	11.691	436.00	33.2635	1431.23	1000.35	13.176
298.00	22.7327	903.31	608.84	11.717	438.00	33.4159	1438.60	1005.74	13.193
300.00	22.8856	911.14	614.69	11.743	440.00	33.5682	1445.96	1011.13	13.210
302.00	23.0385	918.98	620.55	11.769	442.00	33.7206	1453.31	1016.50	13.226
304.00	23.1913	926.82	626.40	11.795	444.00	33.8729	1460.65	1021.87	13.243
306.00	23.3442	934.65	632.26	11.821	446.00	34.0251	1467.98	1027.23	13.259
308.00	23.4970	942.49	638.11	11.846	448.00	34.1774	1475.30	1032.58	13.276
310.00	23.6498	950.32	643.97	11.872	450.00	34.3296	1482.62	1037.93	13.292
312.00	23.8026	958.16	649.82	11.897	452.00	34.4817	1489.95	1043.28	13.308
314.00	23.9554	965.99	655.68	11.922	454.00	34.6338	1497.26	1048.63	13.324
316.00	24.1082	973.82	661.53	11.947	456.00	34.7859	1504.57	1053.96	13.340
318.00	24.2610	981.65	667.38	11.972	458.00	34.9380	1511.87	1059.30	13.356
320.00	24.4138	989.47	673.22	11.996	460.00	35.0900	1519.17	1064.62	13.372
322.00	24.5665	997.29	679.07	12.020	462.00	35.2421	1526.45	1069.94	13.388
324.00	24.7193	1005.11	684.90	12.045	464.00	35.3940	1533.73	1075.25	13.404
326.00	24.8720	1012.93	690.74	12.069	466.00	35.5460	1541.00	1080.55	13.419
328.00	25.0248	1020.74	696.57	12.093	468.00	35.6979	1548.27	1085.85	13.435
330.00	25.1775	1028.54	702.40	12.116	470.00	35.8498	1555.53	1091.14	13.451
332.00	25.3302	1036.34	708.22	12.140	472.00	36.0017	1562.78	1096.42	13.466
334.00	25.4829	1044.14	714.04	12.163	474.00	36.1536	1570.02	1101.70	13.481
336.00	25.6356	1051.93	719.85	12.187	476.00	36.3055	1577.26	1106.97	13.496
338.00	25.7883	1059.71	725.66	12.210	478.00	36.4574	1584.49	1112.23	13.512
340.00	25.9410	1067.49	731.46	12.233	480.00	36.6092	1591.72	1117.49	13.527
342.00	26.0937	1075.26	737.25	12.255	482.00	36.7611	1598.94	1122.75	13.542
344.00	26.2463	1083.03	743.04	12.278	484.00	36.9130	1606.15	1127.99	13.557
346.00	26.3990	1090.79	748.82	12.301	486.00	37.0649	1613.36	1133.24	13.572
348.00	26.5517	1098.54	754.60	12.323	488.00	37.2168	1620.57	1138.47	13.586
350.00	26.7043	1106.29	760.37	12.345	490.00	37.3687	1627.77	1143.70	13.601
352.00	26.8570	1114.02	766.13	12.367	492.00	37.5207	1634.96	1148.93	13.616
354.00	27.0096	1121.75	771.88	12.389	494.00	37.6726	1642.15	1154.15	13.630
356.00	27.1622	1129.48	777.63	12.411	496.00	37.8247	1649.34	1159.37	13.645
358.00	27.3149	1137.19	783.36	12.432	498.00	37.9768	1656.52	1164.58	13.659
360.00	27.4675	1144.90	789.09	12.454	500.00	38.1289	1663.70	1169.79	13.674
362.00	27.6201	1152.59	794.81	12.475	502.00	38.2810	1670.87	1174.99	13.688
364.00	27.7726	1160.28	800.52	12.496	504.00	38.4333	1678.04	1180.19	13.702
366.00	27.9252	1167.96	806.22	12.517	506.00	38.5856	1685.21	1185.39	13.716
368.00	28.0777	1175.63	811.92	12.538	508.00	38.7379	1692.38	1190.58	13.731
370.00	28.2303	1183.29	817.60	12.559	510.00	38.8903	1699.54	1195.76	13.745
372.00	28.3828	1190.94	823.28	12.580	512.00	39.0428	1706.70	1200.95	13.759
374.00	28.5353	1198.59	828.95	12.600	514.00	39.1954	1713.85	1206.13	13.773
376.00	28.6879	1206.22	834.61	12.621	516.00	39.3480	1721.00	1211.30	13.786
378.00	28.8404	1213.85	840.26	12.641	518.00	39.5007	1728.15	1216.47	13.800
380.00	28.9929	1221.47	845.90	12.661	520.00	39.6535	1735.30	1221.64	13.814
382.00	29.1455	1229.08	851.53	12.681	522.00	39.8064	1742.44	1226.81	13.828
384.00	29.2980	1236.68	857.16	12.701	524.00	39.9593	1749.59	1231.97	13.841
386.00	29.4505	1244.27	862.77	12.720	526.00	40.1122	1756.72	1237.12	13.855
388.00	29.6030	1251.85	868.38	12.740	528.00	40.2653	1763.86	1242.28	13.869
390.00	29.7556	1259.42	873.98	12.759	530.00	40.4183	1770.99	1247.43	13.882
392.00	29.9081	1266.99	879.57	12.779	532.00	40.5715	1778.12	1252.57	13.895
394.00	30.0606	1274.55	885.15	12.798	534.00	40.7246	1785.25	1257.72	13.909
396.00	30.2131	1282.09	890.72	12.817	536.00	40.8778	1792.37	1262.85	13.922
398.00	30.3657	1289.63	896.28	12.836	538.00	41.0310	1799.49	1267.99	13.935
400.00	30.5182	1297.16	901.84	12.855	540.00	41.1842	1806.61	1273.12	13.949

80.00 PSIA ISOBAR

TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)
36.00	.2234	-109.17	-112.48	1.861
38.00	.2274	-104.54	-107.91	1.986
40.00	.2320	-99.58	-103.01	2.113
42.00	.2372	-94.24	-97.75	2.243
44.00	.2432	-88.45	-92.05	2.378
46.00	.2502	-82.12	-85.82	2.519
48.00	.2588	-75.09	-78.92	2.668
* 49.768	.2683	-68.06	-76.06	2.812
* 49.768	2.3452	86.26	51.54	5.917
50.00	2.3747	87.42	52.26	5.940
52.00	2.6082	96.38	57.76	6.116
54.00	2.8169	104.17	62.47	6.263
56.00	3.0108	111.30	66.73	6.393
58.00	3.1950	118.01	70.71	6.511
60.00	3.3722	124.43	74.51	6.620
62.00	3.5442	130.65	78.18	6.721
64.00	3.7120	136.71	81.76	6.818
66.00	3.8765	142.65	85.26	6.909
68.00	4.0382	148.50	88.72	6.996
70.00	4.1975	154.27	92.13	7.080
72.00	4.3549	159.97	95.50	7.160
74.00	4.5104	165.62	98.83	7.238
76.00	4.6644	171.22	102.17	7.312
78.00	4.8170	176.78	105.47	7.385
80.00	4.9684	182.31	108.76	7.455
82.00	5.1187	187.81	112.03	7.523
84.00	5.2679	193.28	115.29	7.588
86.00	5.4162	198.72	118.54	7.653
88.00	5.5637	204.15	121.78	7.715
90.00	5.7104	209.56	125.02	7.776
92.00	5.8564	214.95	128.25	7.835
94.00	6.0017	220.34	131.49	7.893
96.00	6.1464	225.71	134.72	7.949
98.00	6.2905	231.08	137.95	8.005
100.00	6.4341	236.44	141.18	8.059
102.00	6.5772	241.79	144.42	8.112
104.00	6.7199	247.15	147.67	8.164
106.00	6.8621	252.51	150.92	8.215
108.00	7.0039	257.87	154.18	8.265
110.00	7.1453	263.24	157.45	8.314
112.00	7.2864	268.61	160.74	8.363
114.00	7.4272	273.99	164.04	8.410
116.00	7.5677	279.38	167.35	8.457
118.00	7.7078	284.79	170.68	8.503
120.00	7.8477	290.21	174.03	8.549
122.00	7.9873	295.64	177.40	8.594
124.00	8.1267	301.10	180.79	8.638
126.00	8.2658	306.57	184.20	8.682
128.00	8.4047	312.07	187.64	8.725
130.00	8.5434	317.59	191.11	8.768
132.00	8.6819	323.13	194.60	8.810
134.00	8.8202	328.70	198.13	8.852
136.00	8.9583	334.30	201.68	8.894
138.00	9.0963	339.93	205.26	8.935
140.00	9.2341	345.59	208.88	8.976
142.00	9.3717	351.28	212.54	9.016
144.00	9.5092	357.01	216.23	9.056
146.00	9.6466	362.77	219.96	9.096
148.00	9.7838	368.56	223.72	9.135
150.00	9.9209	374.40	227.53	9.174
152.00	10.0579	380.27	231.38	9.213
154.00	10.1947	386.19	235.26	9.252
156.00	10.3315	392.14	239.19	9.290
158.00	10.4681	398.14	243.17	9.328
160.00	10.6046	404.18	247.18	9.366
162.00	10.7410	410.26	251.24	9.404
164.00	10.8774	416.38	255.35	9.442
166.00	11.0136	422.55	259.50	9.479
168.00	11.1498	428.76	263.70	9.516
170.00	11.2859	435.01	267.94	9.553
172.00	11.4218	441.31	272.22	9.590
174.00	11.5578	447.65	276.55	9.627
176.00	11.6936	454.04	280.92	9.663
178.00	11.8294	460.47	285.34	9.700
180.00	11.9651	466.93	289.80	9.736
182.00	12.1007	473.44	294.30	9.772
184.00	12.2361	479.99	298.84	9.807
186.00	12.3715	486.58	303.42	9.843
188.00	12.5069	493.21	308.05	9.879
190.00	12.6422	499.88	312.72	9.914
192.00	12.7774	506.60	317.44	9.949
194.00	12.9126	513.36	322.20	9.984
196.00	13.0477	520.16	326.99	10.019
198.00	13.1828	527.00	331.83	10.054
200.00	13.3179	533.88	336.72	10.088
202.00	13.4528	540.80	341.64	10.123
204.00	13.5878	547.75	346.60	10.157
206.00	13.7227	554.75	351.60	10.191
208.00	13.8575	561.79	356.64	10.225
210.00	13.9923	568.86	361.71	10.259
212.00	14.1271	575.97	366.82	10.293
214.00	14.2618	583.11	371.97	10.326
216.00	14.3965	590.29	377.16	10.359
218.00	14.5312	597.49	382.37	10.393
220.00	14.6658	604.73	387.61	10.426
222.00	14.8004	612.00	392.89	10.459
224.00	14.9350	619.30	398.20	10.491
226.00	15.0695	626.63	403.54	10.524
228.00	15.2040	633.99	408.91	10.556
230.00	15.3385	641.38	414.31	10.589
232.00	15.4729	648.80	419.74	10.621
234.00	15.6074	656.24	425.19	10.653
236.00	15.7418	663.71	430.67	10.685
238.00	15.8762	671.21	436.17	10.716
240.00	16.0105	678.73	441.70	10.748
242.00	16.1449	686.27	447.26	10.779
244.00	16.2792	693.84	452.83	10.810
246.00	16.4135	701.42	458.43	10.841
248.00	16.5478	709.03	464.05	10.872
250.00	16.6821	716.66	469.69	10.902
252.00	16.8163	724.31	475.35	10.933
254.00	16.9505	731.97	481.03	10.963
256.00	17.0847	739.66	486.73	10.993
258.00	17.2189	747.36	492.44	11.023
260.00	17.3531	755.07	498.17	11.053

* PHASE CHANGE

TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)	TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)
262.00	17.4873	762.80	503.92	11.083	402.00	26.8487	1304.69	907.22	12.742
264.00	17.6214	770.55	509.67	11.112	404.00	26.9822	1312.21	912.76	12.760
266.00	17.7555	778.30	515.45	11.141	406.00	27.1157	1319.71	918.29	12.779
268.00	17.8897	786.08	521.23	11.171	408.00	27.2492	1327.21	923.81	12.797
270.00	18.0237	793.86	527.03	11.199	410.00	27.3828	1334.70	929.32	12.816
272.00	18.1578	801.63	532.81	11.228	412.00	27.5163	1342.18	934.82	12.834
274.00	18.2919	809.40	538.60	11.257	414.00	27.6498	1349.65	940.31	12.852
276.00	18.4259	817.19	544.41	11.285	416.00	27.7833	1357.11	945.80	12.870
278.00	18.5600	824.98	550.21	11.313	418.00	27.9168	1364.57	951.28	12.888
280.00	18.6940	832.78	556.03	11.341	420.00	28.0504	1372.02	956.75	12.906
282.00	18.8280	840.58	561.85	11.369	422.00	28.1839	1379.45	962.21	12.923
284.00	18.9619	848.40	567.68	11.396	424.00	28.3174	1386.88	967.67	12.941
286.00	19.0959	856.21	573.51	11.424	426.00	28.4509	1394.30	973.11	12.958
288.00	19.2299	864.04	579.35	11.451	428.00	28.5844	1401.72	978.55	12.976
290.00	19.3638	871.86	585.19	11.478	430.00	28.7178	1409.12	983.97	12.993
292.00	19.4977	879.69	591.04	11.505	432.00	28.8513	1416.51	989.39	13.010
294.00	19.6316	887.52	596.89	11.532	434.00	28.9847	1423.90	994.80	13.027
296.00	19.7655	895.36	602.74	11.558	436.00	29.1181	1431.28	1000.20	13.044
298.00	19.8994	903.19	608.60	11.585	438.00	29.2515	1438.64	1005.60	13.061
300.00	20.0333	911.03	614.45	11.611	440.00	29.3848	1446.00	1010.98	13.078
302.00	20.1671	918.87	620.31	11.637	442.00	29.5182	1453.35	1016.36	13.094
304.00	20.3010	926.71	626.17	11.663	444.00	29.6515	1460.70	1021.73	13.111
306.00	20.4348	934.55	632.03	11.689	446.00	29.7847	1468.03	1027.09	13.127
308.00	20.5686	942.39	637.88	11.714	448.00	29.9180	1475.36	1032.44	13.144
310.00	20.7024	950.23	643.74	11.739	450.00	30.0512	1482.67	1037.79	13.160
312.00	20.8362	958.06	649.60	11.765	452.00	30.1844	1490.00	1043.14	13.176
314.00	20.9700	965.90	655.45	11.790	454.00	30.3175	1497.32	1048.49	13.192
316.00	21.1038	973.73	661.31	11.815	456.00	30.4506	1504.63	1053.83	13.208
318.00	21.2376	981.56	667.16	11.839	458.00	30.5837	1511.93	1059.16	13.224
320.00	21.3713	989.39	673.00	11.864	460.00	30.7168	1519.23	1064.49	13.240
322.00	21.5051	997.21	678.85	11.888	462.00	30.8499	1526.51	1069.81	13.256
324.00	21.6388	1005.03	684.69	11.912	464.00	30.9829	1533.80	1075.12	13.272
326.00	21.7725	1012.85	690.53	11.936	466.00	31.1159	1541.07	1080.42	13.288
328.00	21.9062	1020.66	696.36	11.960	468.00	31.2489	1548.33	1085.72	13.303
330.00	22.0399	1028.47	702.19	11.984	470.00	31.3818	1555.59	1091.01	13.319
332.00	22.1737	1036.28	708.01	12.008	472.00	31.5148	1562.85	1096.29	13.334
334.00	22.3073	1044.07	713.83	12.031	474.00	31.6477	1570.09	1101.57	13.349
336.00	22.4410	1051.87	719.65	12.054	476.00	31.7806	1577.33	1106.84	13.365
338.00	22.5747	1059.65	725.45	12.077	478.00	31.9136	1584.56	1112.11	13.380
340.00	22.7084	1067.44	731.26	12.100	480.00	32.0465	1591.79	1117.37	13.395
342.00	22.8420	1075.21	737.05	12.123	482.00	32.1794	1599.01	1122.62	13.410
344.00	22.9757	1082.98	742.84	12.146	484.00	32.3124	1606.23	1127.87	13.425
346.00	23.1094	1090.74	748.62	12.168	486.00	32.4453	1613.44	1133.11	13.440
348.00	23.2430	1098.50	754.40	12.191	488.00	32.5783	1620.65	1138.35	13.454
350.00	23.3766	1106.24	760.17	12.213	490.00	32.7112	1627.85	1143.58	13.469
352.00	23.5103	1113.98	765.93	12.235	492.00	32.8442	1635.04	1148.81	13.484
354.00	23.6439	1121.72	771.69	12.257	494.00	32.9773	1642.24	1154.03	13.498
356.00	23.7775	1129.44	777.43	12.279	496.00	33.1103	1649.42	1159.25	13.513
358.00	23.9111	1137.16	783.17	12.300	498.00	33.2434	1656.61	1164.46	13.527
360.00	24.0447	1144.87	788.90	12.322	500.00	33.3766	1663.78	1169.67	13.542
362.00	24.1783	1152.56	794.62	12.343	502.00	33.5097	1670.96	1174.87	13.556
364.00	24.3118	1160.25	800.34	12.364	504.00	33.6430	1678.13	1180.07	13.570
366.00	24.4454	1167.93	806.04	12.385	506.00	33.7762	1685.30	1185.27	13.585
368.00	24.5789	1175.61	811.73	12.406	508.00	33.9096	1692.47	1190.46	13.599
370.00	24.7125	1183.27	817.42	12.427	510.00	34.0430	1699.63	1195.65	13.613
372.00	24.8460	1190.92	823.10	12.448	512.00	34.1764	1706.79	1200.83	13.627
374.00	24.9795	1198.57	828.77	12.468	514.00	34.3099	1713.94	1206.01	13.641
376.00	25.1130	1206.21	834.43	12.488	516.00	34.4435	1721.10	1211.19	13.655
378.00	25.2466	1213.84	840.08	12.509	518.00	34.5771	1728.25	1216.36	13.668
380.00	25.3801	1221.46	845.72	12.529	520.00	34.7108	1735.39	1221.53	13.682
382.00	25.5136	1229.07	851.36	12.549	522.00	34.8446	1742.54	1226.69	13.696
384.00	25.6471	1236.67	856.98	12.569	524.00	34.9784	1749.68	1231.85	13.710
386.00	25.7806	1244.26	862.60	12.588	526.00	35.1122	1756.82	1237.01	13.723
388.00	25.9141	1251.85	868.21	12.608	528.00	35.2462	1763.96	1242.16	13.737
390.00	26.0477	1259.42	873.81	12.627	530.00	35.3801	1771.09	1247.31	13.750
392.00	26.1812	1266.99	879.40	12.647	532.00	35.5141	1778.22	1252.46	13.764
394.00	26.3147	1274.55	884.98	12.666	534.00	35.6481	1785.35	1257.60	13.777
396.00	26.4482	1282.10	890.55	12.685	536.00	35.7821	1792.47	1262.74	13.790
398.00	26.5817	1289.64	896.12	12.704	538.00	35.9162	1799.59	1267.88	13.804
400.00	26.7152	1297.17	901.67	12.723	540.00	36.0503	1806.71	1273.01	13.817

90.00 PSIA ISOBAR

TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)
36.00	.2231	-108.89	-112.60	1.857
38.00	.2271	-104.27	-108.05	1.982
40.00	.2316	-99.33	-103.19	2.109
42.00	.2367	-94.01	-97.96	2.238
44.00	.2426	-88.26	-92.30	2.372
46.00	.2495	-81.98	-86.14	2.512
48.00	.2579	-75.03	-79.32	2.660
50.00	.2685	-67.13	-71.61	2.821
* 50.962	.2749	-62.86	-72.09	2.905
* 50.962	2.0629	84.88	50.52	5.809
52.00	2.1845	90.23	53.85	5.913
54.00	2.3921	99.12	59.28	6.081
56.00	2.5789	106.94	63.99	6.223
58.00	2.7531	114.13	68.28	6.349
60.00	2.9187	120.91	72.30	6.464
62.00	3.0781	127.41	76.14	6.571
64.00	3.2328	133.70	79.86	6.671
66.00	3.3838	139.83	83.48	6.765
68.00	3.5316	145.84	87.03	6.855
70.00	3.6770	151.76	90.52	6.940
72.00	3.8201	157.59	93.97	7.023
74.00	3.9613	163.35	97.38	7.101
76.00	4.1009	169.06	100.76	7.178
78.00	4.2391	174.72	104.12	7.251
80.00	4.3759	180.33	107.45	7.322
82.00	4.5116	185.91	110.77	7.391
84.00	4.6462	191.46	114.07	7.458
86.00	4.7799	196.97	117.37	7.523
88.00	4.9127	202.47	120.65	7.586
90.00	5.0447	207.94	123.92	7.647
92.00	5.1760	213.39	127.19	7.707
94.00	5.3066	218.83	130.45	7.766
96.00	5.4366	224.25	133.71	7.823
98.00	5.5659	229.67	136.97	7.879
100.00	5.6948	235.08	140.23	7.933
102.00	5.8232	240.48	143.50	7.987
104.00	5.9511	245.88	146.77	8.039
106.00	6.0785	251.28	150.04	8.091
108.00	6.2056	256.68	153.32	8.141
110.00	6.3322	262.08	156.62	8.191
112.00	6.4585	267.49	159.92	8.239
114.00	6.5845	272.90	163.24	8.287
116.00	6.7102	278.33	166.57	8.335
118.00	6.8356	283.77	169.92	8.381
120.00	6.9607	289.22	173.29	8.427
122.00	7.0855	294.68	176.67	8.472
124.00	7.2101	300.16	180.08	8.517
126.00	7.3344	305.66	183.51	8.561
128.00	7.4585	311.18	186.96	8.604
130.00	7.5824	316.73	190.44	8.647
132.00	7.7061	322.29	193.95	8.689
134.00	7.8296	327.89	197.49	8.732
136.00	7.9530	333.51	201.05	8.773
138.00	8.0761	339.16	204.65	8.814
140.00	8.1991	344.84	208.28	8.855
142.00	8.3220	350.55	211.95	8.896
144.00	8.4447	356.29	215.65	8.936
146.00	8.5672	362.07	219.39	8.976
148.00	8.6896	367.89	223.16	9.015
150.00	8.8119	373.74	226.98	9.055
152.00	8.9341	379.63	230.84	9.094
154.00	9.0562	385.56	234.73	9.132
156.00	9.1781	391.53	238.67	9.171
158.00	9.2999	397.54	242.66	9.209
160.00	9.4217	403.60	246.68	9.247
162.00	9.5433	409.69	250.75	9.285
164.00	9.6648	415.83	254.87	9.323
166.00	9.7863	422.01	259.02	9.360
168.00	9.9076	428.24	263.23	9.398
170.00	10.0289	434.50	267.48	9.435
172.00	10.1501	440.81	271.77	9.472
174.00	10.2712	447.17	276.10	9.508
176.00	10.3922	453.56	280.48	9.545
178.00	10.5132	460.00	284.91	9.581
180.00	10.6341	466.48	289.37	9.617
182.00	10.7549	473.00	293.88	9.653
184.00	10.8756	479.55	298.42	9.689
186.00	10.9962	486.15	303.01	9.725
188.00	11.1167	492.79	307.65	9.760
190.00	11.2372	499.48	312.32	9.796
192.00	11.3577	506.20	317.04	9.831
194.00	11.4781	512.97	321.81	9.866
196.00	11.5984	519.78	326.61	9.901
198.00	11.7187	526.63	331.45	9.936
200.00	11.8389	533.51	336.34	9.970
202.00	11.9591	540.44	341.27	10.005
204.00	12.0793	547.41	346.23	10.039
206.00	12.1994	554.41	351.24	10.073
208.00	12.3194	561.46	356.28	10.107
210.00	12.4394	568.53	361.36	10.141
212.00	12.5594	575.65	366.47	10.175
214.00	12.6793	582.80	371.63	10.208
216.00	12.7993	589.98	376.81	10.242
218.00	12.9191	597.19	382.03	10.275
220.00	13.0390	604.44	387.28	10.308
222.00	13.1588	611.72	392.56	10.341
224.00	13.2785	619.02	397.87	10.374
226.00	13.3983	626.36	403.21	10.406
228.00	13.5180	633.73	408.59	10.439
230.00	13.6377	641.12	413.99	10.471
232.00	13.7574	648.54	419.42	10.503
234.00	13.8770	655.99	424.87	10.535
236.00	13.9966	663.47	430.36	10.567
238.00	14.1162	670.97	435.87	10.599
240.00	14.2358	678.49	441.40	10.630
242.00	14.3554	686.04	446.96	10.662
244.00	14.4749	693.61	452.53	10.693
246.00	14.5944	701.20	458.14	10.724
248.00	14.7139	708.82	463.76	10.755
250.00	14.8334	716.45	469.40	10.785
252.00	14.9528	724.10	475.06	10.816
254.00	15.0723	731.77	480.75	10.846
256.00	15.1917	739.46	486.44	10.876
258.00	15.3111	747.16	492.16	10.906
260.00	15.4305	754.88	497.89	10.936

* PHASE CHANGE

TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)	TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)
262.00	15.5498	762.62	503.64	10.966	402.00	23.8761	1304.70	907.05	12.625
264.00	15.6692	770.37	509.40	10.995	404.00	23.9948	1312.22	912.59	12.644
266.00	15.7885	778.13	515.17	11.024	406.00	24.1135	1319.73	918.12	12.662
268.00	15.9078	785.90	520.96	11.053	408.00	24.2322	1327.23	923.64	12.681
270.00	16.0271	793.69	526.76	11.082	410.00	24.3509	1334.72	929.16	12.699
272.00	16.1464	801.46	532.55	11.111	412.00	24.4696	1342.20	934.66	12.717
274.00	16.2657	809.24	538.34	11.140	414.00	24.5883	1349.67	940.16	12.735
276.00	16.3850	817.03	544.14	11.168	416.00	24.7071	1357.14	945.65	12.753
278.00	16.5042	824.83	549.95	11.196	418.00	24.8258	1364.59	951.13	12.771
280.00	16.6234	832.63	555.77	11.224	420.00	24.9446	1372.04	956.60	12.789
282.00	16.7426	840.44	561.60	11.252	422.00	25.0633	1379.48	962.06	12.807
284.00	16.8618	848.26	567.43	11.279	424.00	25.1820	1386.91	967.51	12.824
286.00	16.9810	856.08	573.26	11.307	426.00	25.3007	1394.34	972.96	12.842
288.00	17.1001	863.90	579.10	11.334	428.00	25.4194	1401.75	978.40	12.859
290.00	17.2193	871.73	584.95	11.361	430.00	25.5380	1409.15	983.82	12.876
292.00	17.3384	879.56	590.80	11.388	432.00	25.6567	1416.55	989.24	12.894
294.00	17.4575	887.40	596.65	11.415	434.00	25.7753	1423.94	994.66	12.911
296.00	17.5766	895.24	602.50	11.441	436.00	25.8939	1431.32	1000.06	12.928
298.00	17.6957	903.08	608.36	11.468	438.00	26.0125	1438.69	1005.45	12.944
300.00	17.8148	910.92	614.22	11.494	440.00	26.1311	1446.05	1010.84	12.961
302.00	17.9339	918.76	620.08	11.520	442.00	26.2496	1453.40	1016.22	12.978
304.00	18.0529	926.60	625.94	11.546	444.00	26.3682	1460.74	1021.59	12.994
306.00	18.1720	934.45	631.80	11.572	446.00	26.4867	1468.08	1026.95	13.011
308.00	18.2910	942.29	637.66	11.597	448.00	26.6051	1475.41	1032.30	13.027
310.00	18.4100	950.13	643.51	11.623	450.00	26.7236	1482.73	1037.65	13.044
312.00	18.5290	957.97	649.37	11.648	452.00	26.8420	1490.05	1043.01	13.060
314.00	18.6480	965.81	655.23	11.673	454.00	26.9604	1497.37	1048.35	13.076
316.00	18.7670	973.64	661.08	11.698	456.00	27.0788	1504.69	1053.70	13.092
318.00	18.8860	981.48	666.93	11.722	458.00	27.1971	1511.99	1059.03	13.108
320.00	19.0049	989.31	672.78	11.747	460.00	27.3154	1519.29	1064.35	13.124
322.00	19.1239	997.13	678.63	11.771	462.00	27.4337	1526.58	1069.67	13.140
324.00	19.2429	1004.96	684.47	11.796	464.00	27.5520	1533.86	1074.99	13.155
326.00	19.3618	1012.78	690.31	11.820	466.00	27.6703	1541.13	1080.29	13.171
328.00	19.4807	1020.59	696.15	11.844	468.00	27.7885	1548.40	1085.59	13.187
330.00	19.5996	1028.40	701.98	11.867	470.00	27.9067	1555.66	1090.88	13.202
332.00	19.7186	1036.21	707.80	11.891	472.00	28.0249	1562.91	1096.17	13.218
334.00	19.8375	1044.01	713.62	11.914	474.00	28.1431	1570.16	1101.44	13.233
336.00	19.9564	1051.81	719.44	11.938	476.00	28.2613	1577.40	1106.72	13.248
338.00	20.0752	1059.60	725.25	11.961	478.00	28.3795	1584.64	1111.98	13.263
340.00	20.1941	1067.38	731.05	11.984	480.00	28.4977	1591.87	1117.24	13.278
342.00	20.3130	1075.16	736.85	12.006	482.00	28.6159	1599.09	1122.50	13.293
344.00	20.4319	1082.93	742.64	12.029	484.00	28.7341	1606.31	1127.75	13.308
346.00	20.5507	1090.69	748.43	12.052	486.00	28.8523	1613.52	1132.99	13.323
348.00	20.6696	1098.45	754.20	12.074	488.00	28.9705	1620.73	1138.23	13.338
350.00	20.7885	1106.20	759.97	12.096	490.00	29.0887	1627.93	1143.46	13.353
352.00	20.9073	1113.94	765.74	12.118	492.00	29.2070	1635.13	1148.69	13.367
354.00	21.0261	1121.68	771.49	12.140	494.00	29.3253	1642.32	1153.91	13.382
356.00	21.1450	1129.41	777.24	12.162	496.00	29.4436	1649.51	1159.13	13.397
358.00	21.2638	1137.13	782.98	12.184	498.00	29.5619	1656.69	1164.34	13.411
360.00	21.3826	1144.84	788.71	12.205	500.00	29.6803	1663.87	1169.55	13.425
362.00	21.5014	1152.54	794.44	12.226	502.00	29.7987	1671.05	1174.76	13.440
364.00	21.6202	1160.23	800.15	12.248	504.00	29.9171	1678.22	1179.96	13.454
366.00	21.7389	1167.91	805.85	12.269	506.00	30.0356	1685.39	1185.15	13.468
368.00	21.8577	1175.58	811.55	12.290	508.00	30.1542	1692.55	1190.34	13.482
370.00	21.9764	1183.25	817.24	12.310	510.00	30.2728	1699.72	1195.53	13.496
372.00	22.0952	1190.91	822.92	12.331	512.00	30.3914	1706.88	1200.72	13.510
374.00	22.2139	1198.55	828.59	12.351	514.00	30.5101	1714.03	1205.90	13.524
376.00	22.3327	1206.19	834.25	12.372	516.00	30.6288	1721.19	1211.07	13.538
378.00	22.4514	1213.82	839.90	12.392	518.00	30.7476	1728.34	1216.24	13.552
380.00	22.5701	1221.45	845.55	12.412	520.00	30.8665	1735.49	1221.41	13.566
382.00	22.6889	1229.06	851.18	12.432	522.00	30.9854	1742.63	1226.58	13.580
384.00	22.8076	1236.66	856.81	12.452	524.00	31.1043	1749.78	1231.74	13.593
386.00	22.9263	1244.26	862.43	12.472	526.00	31.2233	1756.92	1236.90	13.607
388.00	23.0450	1251.85	868.04	12.491	528.00	31.3424	1764.05	1242.05	13.620
390.00	23.1638	1259.42	873.64	12.511	530.00	31.4614	1771.19	1247.20	13.634
392.00	23.2825	1266.99	879.23	12.530	532.00	31.5805	1778.32	1252.35	13.647
394.00	23.4012	1274.55	884.81	12.549	534.00	31.6997	1785.44	1257.49	13.661
396.00	23.5199	1282.10	890.39	12.569	536.00	31.8188	1792.57	1262.63	13.674
398.00	23.6386	1289.65	895.95	12.588	538.00	31.9380	1799.69	1267.77	13.687
400.00	23.7574	1297.18	901.51	12.606	540.00	32.0571	1806.81	1272.90	13.700

100.00 PSIA ISO8AR

TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)
36.00	.2228	-108.60	-112.72	1.854
38.00	.2268	-104.00	-108.20	1.978
40.00	.2313	-99.08	-103.36	2.104
42.00	.2363	-93.79	-98.16	2.233
44.00	.2421	-88.07	-92.55	2.366
46.00	.2489	-81.84	-86.44	2.505
48.00	.2570	-74.96	-79.71	2.651
50.00	.2673	-67.19	-72.13	2.810
52.00	.2811	-58.05	-63.25	2.989
*52.067	.2818	-57.71	-68.22	2.995
*52.067	1.8328	83.21	49.29	5.707
54.00	2.0419	93.44	55.65	5.900
56.00	2.2272	102.20	60.99	6.059
58.00	2.3956	110.00	65.67	6.196
60.00	2.5532	117.21	69.96	6.318
62.00	2.7034	124.04	74.01	6.430
64.00	2.8481	130.59	77.88	6.534
66.00	2.9885	136.94	81.63	6.632
68.00	3.1256	143.13	85.29	6.724
70.00	3.2599	149.20	88.87	6.812
72.00	3.3918	155.17	92.40	6.896
74.00	3.5217	161.06	95.89	6.977
76.00	3.6499	166.87	99.33	7.055
78.00	3.7765	172.63	102.74	7.129
80.00	3.9018	178.34	106.13	7.202
82.00	4.0259	184.00	109.50	7.272
84.00	4.1488	189.62	112.85	7.339
86.00	4.2708	195.21	116.18	7.405
88.00	4.3919	200.77	119.50	7.469
90.00	4.5122	206.31	122.81	7.531
92.00	4.6317	211.82	126.11	7.592
94.00	4.7506	217.31	129.40	7.651
96.00	4.8688	222.79	132.70	7.709
98.00	4.9864	228.26	135.98	7.765
100.00	5.1035	233.71	139.27	7.820
102.00	5.2200	239.16	142.56	7.874
104.00	5.3361	244.60	145.86	7.927
106.00	5.4518	250.04	149.16	7.979
108.00	5.5670	255.48	152.46	8.029
110.00	5.6819	260.92	155.78	8.079
112.00	5.7963	266.37	159.10	8.128
114.00	5.9105	271.82	162.44	8.177
116.00	6.0243	277.28	165.79	8.224
118.00	6.1379	282.74	169.16	8.271
120.00	6.2511	288.22	172.54	8.317
122.00	6.3641	293.72	175.95	8.362
124.00	6.4769	299.23	179.37	8.407
126.00	6.5894	304.75	182.81	8.451
128.00	6.7017	310.30	186.28	8.495
130.00	6.8137	315.87	189.78	8.538
132.00	6.9256	321.46	193.30	8.581
134.00	7.0373	327.07	196.85	8.623
136.00	7.1488	332.72	200.43	8.665
138.00	7.2601	338.39	204.04	8.706
140.00	7.3713	344.09	207.68	8.747
142.00	7.4823	349.82	211.36	8.788
144.00	7.5931	355.58	215.07	8.828
146.00	7.7038	361.38	218.82	8.868
148.00	7.8144	367.21	222.61	8.908
150.00	7.9249	373.08	226.43	8.947
152.00	8.0352	378.99	230.30	8.986
154.00	8.1454	384.94	234.21	9.025
156.00	8.2555	390.92	238.15	9.064
158.00	8.3655	396.95	242.15	9.102
160.00	8.4754	403.02	246.18	9.140
162.00	8.5852	409.13	250.26	9.178
164.00	8.6949	415.28	254.38	9.216
166.00	8.8045	421.48	258.55	9.254
168.00	8.9140	427.71	262.76	9.291
170.00	9.0234	433.99	267.01	9.328
172.00	9.1328	440.32	271.31	9.365
174.00	9.2421	446.68	275.66	9.402
176.00	9.3513	453.09	280.04	9.438
178.00	9.4604	459.54	284.47	9.475
180.00	9.5694	466.03	288.95	9.511
182.00	9.6784	472.56	293.46	9.547
184.00	9.7872	479.12	298.01	9.583
186.00	9.8960	485.73	302.60	9.619
188.00	10.0047	492.38	307.24	9.654
190.00	10.1134	499.08	311.93	9.690
192.00	10.2220	505.81	316.65	9.725
194.00	10.3305	512.59	321.42	9.760
196.00	10.4390	519.40	326.23	9.795
198.00	10.5475	526.26	331.08	9.830
200.00	10.6559	533.16	335.97	9.865
202.00	10.7642	540.09	340.90	9.899
204.00	10.8725	547.06	345.87	9.933
206.00	10.9808	554.08	350.87	9.968
208.00	11.0890	561.13	355.92	10.002
210.00	11.1972	568.21	361.00	10.036
212.00	11.3053	575.33	366.12	10.069
214.00	11.4134	582.49	371.28	10.103
216.00	11.5215	589.68	376.47	10.136
218.00	11.6295	596.90	381.69	10.170
220.00	11.7375	604.15	386.94	10.203
222.00	11.8455	611.43	392.23	10.236
224.00	11.9534	618.75	397.54	10.269
226.00	12.0613	626.09	402.89	10.301
228.00	12.1692	633.46	408.27	10.334
230.00	12.2771	640.86	413.67	10.366
232.00	12.3849	648.29	419.10	10.398
234.00	12.4927	655.74	424.56	10.430
236.00	12.6005	663.22	430.05	10.462
238.00	12.7083	670.73	435.56	10.494
240.00	12.8160	678.26	441.09	10.525
242.00	12.9237	685.81	446.65	10.556
244.00	13.0314	693.39	452.24	10.588
246.00	13.1391	700.98	457.84	10.619
248.00	13.2468	708.60	463.47	10.650
250.00	13.3544	716.24	469.11	10.680
252.00	13.4621	723.90	474.78	10.711
254.00	13.5697	731.57	480.46	10.741
256.00	13.6772	739.26	486.16	10.771
258.00	13.7848	746.97	491.88	10.801
260.00	13.8924	754.69	497.61	10.831

* PHASE CHANGE

TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)	TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)
262.00	13.9999	762.43	503.36	10.861	402.00	21.4979	1304.72	906.89	12.521
264.00	14.1074	770.19	509.13	10.890	404.00	21.6048	1312.24	912.43	12.540
266.00	14.2149	777.95	514.90	10.919	406.00	21.7117	1319.75	917.96	12.558
268.00	14.3224	785.73	520.69	10.949	408.00	21.8186	1327.25	923.49	12.577
270.00	14.4299	793.52	526.49	10.978	410.00	21.9255	1334.74	929.00	12.595
272.00	14.5373	801.30	532.28	11.006	412.00	22.0323	1342.22	934.50	12.613
274.00	14.6448	809.08	538.08	11.035	414.00	22.1392	1349.69	940.00	12.631
276.00	14.7522	816.88	543.88	11.063	416.00	22.2461	1357.16	945.49	12.649
278.00	14.8596	824.68	549.70	11.091	418.00	22.3530	1364.62	950.97	12.667
280.00	14.9670	832.48	555.52	11.119	420.00	22.4599	1372.07	956.44	12.685
282.00	15.0744	840.30	561.34	11.147	422.00	22.5668	1379.51	961.91	12.702
284.00	15.1817	848.12	567.17	11.175	424.00	22.6736	1386.95	967.36	12.720
286.00	15.2891	855.94	573.01	11.202	426.00	22.7805	1394.37	972.81	12.738
288.00	15.3964	863.77	578.85	11.229	428.00	22.8873	1401.78	978.25	12.755
290.00	15.5037	871.60	584.70	11.256	430.00	22.9942	1409.19	983.68	12.772
292.00	15.6110	879.44	590.55	11.283	432.00	23.1010	1416.59	989.10	12.789
294.00	15.7183	887.28	596.41	11.310	434.00	23.2078	1423.98	994.51	12.806
296.00	15.8256	895.12	602.26	11.337	436.00	23.3146	1431.36	999.91	12.823
298.00	15.9328	902.96	608.12	11.363	438.00	23.4213	1438.73	1005.31	12.840
300.00	16.0401	910.81	613.98	11.389	440.00	23.5281	1446.09	1010.70	12.857
302.00	16.1473	918.65	619.84	11.415	442.00	23.6348	1453.45	1016.08	12.874
304.00	16.2545	926.50	625.70	11.441	444.00	23.7415	1460.79	1021.45	12.890
306.00	16.3617	934.34	631.57	11.467	446.00	23.8482	1468.13	1026.81	12.907
308.00	16.4689	942.19	637.43	11.493	448.00	23.9548	1475.46	1032.17	12.923
310.00	16.5761	950.03	643.29	11.518	450.00	24.0614	1482.78	1037.51	12.939
312.00	16.6833	957.88	649.15	11.543	452.00	24.1680	1490.11	1042.87	12.956
314.00	16.7904	965.72	655.01	11.568	454.00	24.2746	1497.43	1048.22	12.972
316.00	16.8976	973.56	660.86	11.593	456.00	24.3812	1504.74	1053.56	12.988
318.00	17.0047	981.39	666.72	11.618	458.00	24.4877	1512.05	1058.90	13.004
320.00	17.1119	989.23	672.57	11.642	460.00	24.5943	1519.35	1064.22	13.020
322.00	17.2190	997.06	678.42	11.667	462.00	24.7008	1526.64	1069.54	13.036
324.00	17.3261	1004.88	684.26	11.691	464.00	24.8072	1533.92	1074.86	13.051
326.00	17.4332	1012.71	690.10	11.715	466.00	24.9137	1541.20	1080.16	13.067
328.00	17.5403	1020.53	695.94	11.739	468.00	25.0201	1548.47	1085.46	13.083
330.00	17.6474	1028.34	701.77	11.763	470.00	25.1266	1555.73	1090.75	13.098
332.00	17.7545	1036.15	707.60	11.786	472.00	25.2330	1562.99	1096.04	13.113
334.00	17.8616	1043.95	713.42	11.810	474.00	25.3394	1570.23	1101.32	13.129
336.00	17.9686	1051.75	719.24	11.833	476.00	25.4458	1577.48	1106.59	13.144
338.00	18.0757	1059.54	725.05	11.856	478.00	25.5522	1584.71	1111.86	13.159
340.00	18.1827	1067.33	730.85	11.879	480.00	25.6586	1591.94	1117.12	13.174
342.00	18.2898	1075.11	736.65	11.902	482.00	25.7650	1599.17	1122.38	13.189
344.00	18.3968	1082.88	742.44	11.925	484.00	25.8714	1606.39	1127.63	13.204
346.00	18.5038	1090.65	748.23	11.947	486.00	25.9778	1613.60	1132.87	13.219
348.00	18.6109	1098.41	754.01	11.970	488.00	26.0843	1620.81	1138.11	13.234
350.00	18.7179	1106.16	759.78	11.992	490.00	26.1907	1628.01	1143.34	13.249
352.00	18.8249	1113.91	765.55	12.014	492.00	26.2972	1635.21	1148.57	13.263
354.00	18.9319	1121.64	771.30	12.036	494.00	26.4036	1642.40	1153.80	13.278
356.00	19.0389	1129.37	777.05	12.058	496.00	26.5101	1649.59	1159.02	13.292
358.00	19.1459	1137.09	782.79	12.079	498.00	26.6167	1656.78	1164.23	13.307
360.00	19.2529	1144.81	788.53	12.101	500.00	26.7232	1663.96	1169.44	13.321
362.00	19.3598	1152.51	794.25	12.122	502.00	26.8298	1671.14	1174.64	13.336
364.00	19.4668	1160.20	799.96	12.143	504.00	26.9364	1678.31	1179.84	13.350
366.00	19.5737	1167.89	805.67	12.164	506.00	27.0431	1685.48	1185.04	13.364
368.00	19.6807	1175.56	811.37	12.185	508.00	27.1498	1692.65	1190.23	13.378
370.00	19.7876	1183.23	817.06	12.206	510.00	27.2566	1699.81	1195.42	13.392
372.00	19.8945	1190.89	822.74	12.227	512.00	27.3634	1706.97	1200.60	13.406
374.00	20.0014	1198.54	828.41	12.247	514.00	27.4702	1714.13	1205.78	13.420
376.00	20.1083	1206.18	834.07	12.267	516.00	27.5771	1721.28	1210.96	13.434
378.00	20.2152	1213.82	839.73	12.288	518.00	27.6840	1728.43	1216.13	13.448
380.00	20.3221	1221.44	845.37	12.308	520.00	27.7910	1735.58	1221.30	13.462
382.00	20.4290	1229.05	851.01	12.328	522.00	27.8980	1742.73	1226.47	13.475
384.00	20.5359	1236.66	856.64	12.348	524.00	28.0051	1749.87	1231.63	13.489
386.00	20.6428	1244.26	862.26	12.367	526.00	28.1122	1757.01	1236.79	13.503
388.00	20.7497	1251.85	867.87	12.387	528.00	28.2193	1764.15	1241.94	13.516
390.00	20.8566	1259.43	873.47	12.406	530.00	28.3265	1771.28	1247.09	13.530
392.00	20.9635	1267.00	879.06	12.426	532.00	28.4337	1778.42	1252.24	13.543
394.00	21.0704	1274.56	884.65	12.445	534.00	28.5409	1785.54	1257.39	13.557
396.00	21.1773	1282.11	890.22	12.464	536.00	28.6481	1792.67	1262.53	13.570
398.00	21.2842	1289.66	895.79	12.483	538.00	28.7554	1799.79	1267.66	13.583
400.00	21.3911	1297.19	901.34	12.502	540.00	28.8626	1806.91	1272.80	13.596

120.00 PSIA ISOBAR

TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)
36.00	.2223	-108.02	-112.96	1.847
38.00	.2262	-103.45	-108.48	1.970
40.00	.2305	-98.57	-103.69	2.096
42.00	.2355	-93.33	-98.55	2.223
44.00	.2411	-87.67	-93.03	2.355
46.00	.2476	-81.53	-87.03	2.491
48.00	.2554	-74.79	-80.46	2.635
50.00	.2650	-67.24	-73.13	2.789
52.00	.2775	-58.52	-64.68	2.960
54.00	.2961	-47.71	-54.28	3.164
* 54.062	.2975	-47.31	-60.63	3.171
* 54.062	1.4780	79.07	46.25	5.514
56.00	1.6777	91.04	53.79	5.732
58.00	1.8464	100.74	59.74	5.902
60.00	1.9965	109.16	64.82	6.045
62.00	2.1355	116.83	69.41	6.171
64.00	2.2669	124.03	73.69	6.285
66.00	2.3927	130.89	77.75	6.390
68.00	2.5143	137.50	81.66	6.489
70.00	2.6326	143.92	85.46	6.582
72.00	2.7481	150.20	89.17	6.671
74.00	2.8614	156.35	92.81	6.755
76.00	2.9726	162.41	96.40	6.836
78.00	3.0822	168.38	99.94	6.913
80.00	3.1903	174.28	103.44	6.988
82.00	3.2971	180.13	106.91	7.060
84.00	3.4027	185.91	110.35	7.130
86.00	3.5072	191.65	113.77	7.197
88.00	3.6108	197.36	117.17	7.263
90.00	3.7135	203.02	120.56	7.327
92.00	3.8155	208.66	123.93	7.388
94.00	3.9167	214.27	127.30	7.449
96.00	4.0173	219.86	130.65	7.508
98.00	4.1173	225.43	134.00	7.565
100.00	4.2167	230.98	137.34	7.621
102.00	4.3156	236.52	140.69	7.676
104.00	4.4140	242.05	144.03	7.730
106.00	4.5119	247.57	147.38	7.782
108.00	4.6094	253.09	150.73	7.834
110.00	4.7066	258.61	154.09	7.884
112.00	4.8033	264.13	157.46	7.934
114.00	4.8998	269.64	160.84	7.983
116.00	4.9959	275.17	164.23	8.031
118.00	5.0917	280.70	167.63	8.078
120.00	5.1872	286.24	171.05	8.125
122.00	5.2824	291.79	174.49	8.171
124.00	5.3774	297.36	177.94	8.216
126.00	5.4722	302.94	181.42	8.261
128.00	5.5667	308.53	184.92	8.305
130.00	5.6610	314.15	188.44	8.348
132.00	5.7551	319.79	191.99	8.391
134.00	5.8490	325.45	195.57	8.434
136.00	5.9428	331.14	199.17	8.476
138.00	6.0363	336.85	202.81	8.518
140.00	6.1297	342.59	206.48	8.559
142.00	6.2230	348.37	210.18	8.600
144.00	6.3161	354.17	213.91	8.641
146.00	6.4090	360.00	217.68	8.681
148.00	6.5018	365.87	221.49	8.721
150.00	6.5945	371.78	225.34	8.760
152.00	6.6871	377.72	229.22	8.800
154.00	6.7795	383.70	233.15	8.839
156.00	6.8719	389.71	237.12	8.878
158.00	6.9641	395.77	241.13	8.916
160.00	7.0562	401.87	245.18	8.955
162.00	7.1482	408.01	249.27	8.993
164.00	7.2402	414.19	253.41	9.031
166.00	7.3320	420.41	257.59	9.068
168.00	7.4238	426.67	261.82	9.106
170.00	7.5154	432.98	266.09	9.143
172.00	7.6070	439.33	270.40	9.180
174.00	7.6985	445.72	274.76	9.217
176.00	7.7900	452.15	279.16	9.254
178.00	7.8813	458.62	283.61	9.290
180.00	7.9726	465.13	288.09	9.327
182.00	8.0638	471.68	292.62	9.363
184.00	8.1549	478.27	297.18	9.399
186.00	8.2459	484.90	301.79	9.435
188.00	8.3368	491.57	306.44	9.471
190.00	8.4277	498.28	311.13	9.506
192.00	8.5185	505.03	315.87	9.541
194.00	8.6093	511.82	320.64	9.577
196.00	8.7000	518.66	325.46	9.612
198.00	8.7906	525.53	330.32	9.647
200.00	8.8812	532.44	335.22	9.681
202.00	8.9718	539.39	340.16	9.716
204.00	9.0623	546.38	345.14	9.750
206.00	9.1528	553.41	350.16	9.785
208.00	9.2432	560.47	355.21	9.819
210.00	9.3336	567.57	360.30	9.853
212.00	9.4240	574.71	365.43	9.886
214.00	9.5143	581.87	370.60	9.920
216.00	9.6046	589.08	375.80	9.954
218.00	9.6949	596.31	381.02	9.987
220.00	9.7851	603.57	386.28	10.020
222.00	9.8753	610.87	391.57	10.053
224.00	9.9655	618.19	396.90	10.086
226.00	10.0556	625.55	402.25	10.119
228.00	10.1457	632.93	407.63	10.151
230.00	10.2358	640.34	413.04	10.184
232.00	10.3259	647.78	418.48	10.216
234.00	10.4160	655.25	423.95	10.248
236.00	10.5060	662.74	429.44	10.280
238.00	10.5960	670.25	434.95	10.311
240.00	10.6860	677.79	440.50	10.343
242.00	10.7760	685.36	446.06	10.374
244.00	10.8659	692.94	451.65	10.406
246.00	10.9558	700.55	457.26	10.437
248.00	11.0457	708.17	462.89	10.467
250.00	11.1356	715.82	468.54	10.498
252.00	11.2255	723.49	474.21	10.529
254.00	11.3154	731.17	479.90	10.559
256.00	11.4052	738.87	485.60	10.589
258.00	11.4950	746.59	491.33	10.619
260.00	11.5849	754.32	497.06	10.649

* PHASE CHANGE

TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)	TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)
262.00	11.6746	762.07	502.82	10.679	402.00	17.9303	1304.74	906.58	12.340
264.00	11.7644	769.83	508.59	10.708	404.00	18.0194	1312.27	912.12	12.359
266.00	11.8542	777.61	514.37	10.738	406.00	18.1086	1319.78	917.65	12.377
268.00	11.9439	785.39	520.16	10.767	408.00	18.1977	1327.28	923.18	12.396
270.00	12.0336	793.19	525.97	10.796	410.00	18.2868	1334.78	928.69	12.414
272.00	12.1233	800.98	531.76	10.825	412.00	18.3759	1342.26	934.20	12.432
274.00	12.2130	808.77	537.56	10.853	414.00	18.4651	1349.74	939.70	12.451
276.00	12.3027	816.57	543.37	10.881	416.00	18.5542	1357.21	945.19	12.469
278.00	12.3924	824.38	549.19	10.910	418.00	18.6433	1364.67	950.67	12.486
280.00	12.4820	832.19	555.01	10.938	420.00	18.7325	1372.13	956.15	12.504
282.00	12.5716	840.01	560.84	10.965	422.00	18.8216	1379.57	961.61	12.522
284.00	12.6612	847.84	566.68	10.993	424.00	18.9107	1387.01	967.07	12.540
286.00	12.7508	855.67	572.52	11.021	426.00	18.9998	1394.44	972.52	12.557
288.00	12.8404	863.51	578.37	11.048	428.00	19.0889	1401.85	977.96	12.574
290.00	12.9300	871.35	584.22	11.075	430.00	19.1780	1409.26	983.39	12.592
292.00	13.0195	879.19	590.08	11.102	432.00	19.2670	1416.66	988.81	12.609
294.00	13.1090	887.04	595.93	11.129	434.00	19.3561	1424.06	994.23	12.626
296.00	13.1986	894.89	601.79	11.155	436.00	19.4451	1431.44	999.63	12.643
298.00	13.2881	902.74	607.66	11.182	438.00	19.5341	1438.81	1005.03	12.660
300.00	13.3776	910.59	613.52	11.208	440.00	19.6232	1446.18	1010.42	12.677
302.00	13.4670	918.44	619.39	11.234	442.00	19.7121	1453.54	1015.80	12.693
304.00	13.5565	926.29	625.25	11.260	444.00	19.8011	1460.89	1021.18	12.710
306.00	13.6460	934.14	631.12	11.286	446.00	19.8901	1468.23	1026.54	12.726
308.00	13.7354	942.00	636.98	11.311	448.00	19.9790	1475.56	1031.90	12.743
310.00	13.8248	949.85	642.85	11.337	450.00	20.0679	1482.88	1037.25	12.759
312.00	13.9143	957.70	648.71	11.362	452.00	20.1568	1490.22	1042.61	12.775
314.00	14.0037	965.54	654.57	11.387	454.00	20.2457	1497.54	1047.96	12.791
316.00	14.0931	973.39	660.43	11.412	456.00	20.3345	1504.86	1053.30	12.808
318.00	14.1825	981.23	666.29	11.437	458.00	20.4233	1512.17	1058.64	12.824
320.00	14.2718	989.07	672.14	11.461	460.00	20.5122	1519.47	1063.97	12.839
322.00	14.3612	996.91	678.00	11.486	462.00	20.6010	1526.76	1069.29	12.855
324.00	14.4506	1004.74	683.84	11.510	464.00	20.6898	1534.05	1074.60	12.871
326.00	14.5399	1012.57	689.69	11.534	466.00	20.7785	1541.33	1079.91	12.887
328.00	14.6293	1020.39	695.53	11.558	468.00	20.8673	1548.60	1085.21	12.902
330.00	14.7186	1028.21	701.36	11.582	470.00	20.9560	1555.86	1090.51	12.918
332.00	14.8080	1036.02	707.19	11.605	472.00	21.0448	1563.12	1095.80	12.933
334.00	14.8973	1043.83	713.02	11.629	474.00	21.1335	1570.37	1101.08	12.948
336.00	14.9866	1051.64	718.84	11.652	476.00	21.2222	1577.62	1106.35	12.964
338.00	15.0759	1059.43	724.65	11.675	478.00	21.3109	1584.86	1111.62	12.979
340.00	15.1652	1067.22	730.46	11.698	480.00	21.3996	1592.09	1116.88	12.994
342.00	15.2545	1075.01	736.26	11.721	482.00	21.4884	1599.32	1122.14	13.009
344.00	15.3438	1082.79	742.06	11.744	484.00	21.5771	1606.54	1127.39	13.024
346.00	15.4331	1090.56	747.85	11.766	486.00	21.6658	1613.76	1132.64	13.039
348.00	15.5224	1098.32	753.63	11.789	488.00	21.7545	1620.97	1137.88	13.054
350.00	15.6116	1106.08	759.40	11.811	490.00	21.8433	1628.17	1143.11	13.068
352.00	15.7009	1113.83	765.17	11.833	492.00	21.9320	1635.37	1148.34	13.083
354.00	15.7902	1121.57	770.93	11.855	494.00	22.0208	1642.57	1153.57	13.098
356.00	15.8794	1129.31	776.68	11.877	496.00	22.1096	1649.76	1158.79	13.112
358.00	15.9687	1137.03	782.43	11.898	498.00	22.1984	1656.95	1164.00	13.127
360.00	16.0579	1144.75	788.16	11.920	500.00	22.2872	1664.13	1169.22	13.141
362.00	16.1471	1152.46	793.89	11.941	502.00	22.3761	1671.31	1174.42	13.155
364.00	16.2363	1160.15	799.60	11.962	504.00	22.4650	1678.49	1179.62	13.170
366.00	16.3255	1167.84	805.31	11.983	506.00	22.5539	1685.66	1184.82	13.184
368.00	16.4147	1175.52	811.01	12.004	508.00	22.6428	1692.83	1190.01	13.198
370.00	16.5039	1183.20	816.70	12.025	510.00	22.7318	1699.99	1195.20	13.212
372.00	16.5931	1190.86	822.39	12.046	512.00	22.8209	1707.16	1200.39	13.226
374.00	16.6822	1198.51	828.06	12.066	514.00	22.9099	1714.32	1205.57	13.240
376.00	16.7714	1206.16	833.73	12.087	516.00	22.9990	1721.47	1210.75	13.254
378.00	16.8606	1213.80	839.38	12.107	518.00	23.0881	1728.62	1215.92	13.268
380.00	16.9497	1221.42	845.03	12.127	520.00	23.1773	1735.78	1221.09	13.282
382.00	17.0389	1229.04	850.67	12.147	522.00	23.2665	1742.92	1226.26	13.295
384.00	17.1280	1236.65	856.30	12.167	524.00	23.3557	1750.07	1231.42	13.309
386.00	17.2172	1244.25	861.92	12.187	526.00	23.4450	1757.21	1236.58	13.322
388.00	17.3063	1251.85	867.54	12.206	528.00	23.5343	1764.35	1241.74	13.336
390.00	17.3955	1259.43	873.14	12.226	530.00	23.6236	1771.48	1246.89	13.350
392.00	17.4846	1267.00	878.73	12.245	532.00	23.7130	1778.61	1252.04	13.363
394.00	17.5738	1274.57	884.32	12.264	534.00	23.8023	1785.74	1257.18	13.376
396.00	17.6629	1282.13	889.90	12.284	536.00	23.8917	1792.87	1262.32	13.390
398.00	17.7521	1289.68	895.47	12.303	538.00	23.9811	1799.99	1267.46	13.403
400.00	17.8412	1297.21	901.03	12.322	540.00	24.0704	1807.11	1272.59	13.416

140.00 PSIA ISOBAR

TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)
36.00	.2218	-107.44	-113.19	1.840
38.00	.2256	-102.90	-108.75	1.963
40.00	.2299	-98.05	-104.01	2.087
42.00	.2346	-92.86	-98.94	2.214
44.00	.2401	-87.27	-93.49	2.344
46.00	.2464	-81.21	-87.59	2.478
48.00	.2538	-74.59	-81.16	2.619
50.00	.2629	-67.23	-74.04	2.770
52.00	.2744	-58.85	-65.96	2.934
54.00	.2906	-48.81	-56.34	3.123
* 55.832	.3171	-36.43	-52.99	3.348
* 55.832	1.2143	73.86	42.40	5.329
56.00	1.2350	75.39	43.40	5.356
58.00	1.4317	89.43	52.34	5.603
60.00	1.5862	99.91	58.82	5.781
62.00	1.7219	108.85	64.25	5.927
64.00	1.8463	116.93	69.09	6.055
66.00	1.9634	124.44	73.57	6.171
68.00	2.0751	131.57	77.81	6.278
70.00	2.1826	138.41	81.87	6.377
72.00	2.2870	145.04	85.79	6.470
74.00	2.3887	151.50	89.62	6.559
76.00	2.4882	157.83	93.37	6.643
78.00	2.5858	164.04	97.05	6.724
80.00	2.6817	170.15	100.67	6.801
82.00	2.7763	176.18	104.26	6.876
84.00	2.8696	182.15	107.80	6.947
86.00	2.9618	188.05	111.32	7.017
88.00	3.0530	193.90	114.81	7.084
90.00	3.1432	199.71	118.28	7.149
92.00	3.2327	205.47	121.72	7.213
94.00	3.3214	211.21	125.16	7.274
96.00	3.4094	216.91	128.58	7.334
98.00	3.4968	222.58	131.99	7.393
100.00	3.5836	228.24	135.40	7.450
102.00	3.6698	233.87	138.80	7.506
104.00	3.7556	239.49	142.19	7.560
106.00	3.8409	245.10	145.59	7.614
108.00	3.9258	250.70	148.99	7.666
110.00	4.0103	256.29	152.40	7.717
112.00	4.0944	261.88	155.81	7.768
114.00	4.1782	267.47	159.23	7.817
116.00	4.2616	273.06	162.66	7.866
118.00	4.3447	278.66	166.10	7.914
120.00	4.4276	284.26	169.55	7.961
122.00	4.5101	289.87	173.02	8.007
124.00	4.5924	295.49	176.51	8.053
126.00	4.6745	301.13	180.02	8.098
128.00	4.7564	306.78	183.55	8.142
130.00	4.8380	312.44	187.10	8.186
132.00	4.9194	318.13	190.68	8.230
134.00	5.0006	323.84	194.28	8.273
136.00	5.0817	329.57	197.92	8.315
138.00	5.1626	335.32	201.58	8.357
140.00	5.2433	341.11	205.27	8.399
142.00	5.3238	346.92	208.99	8.440
144.00	5.4042	352.76	212.75	8.481
146.00	5.4845	358.63	216.54	8.521
148.00	5.5646	364.54	220.38	8.561
150.00	5.6446	370.48	224.24	8.601
152.00	5.7244	376.45	228.15	8.641
154.00	5.8042	382.46	232.09	8.680
156.00	5.8838	388.51	236.08	8.719
158.00	5.9634	394.60	240.11	8.758
160.00	6.0428	400.73	244.18	8.797
162.00	6.1221	406.90	248.29	8.835
164.00	6.2014	413.10	252.44	8.873
166.00	6.2805	419.35	256.64	8.911
168.00	6.3596	425.64	260.88	8.948
170.00	6.4385	431.97	265.17	8.986
172.00	6.5174	438.35	269.50	9.023
174.00	6.5963	444.76	273.87	9.060
176.00	6.6750	451.22	278.28	9.097
178.00	6.7537	457.71	282.74	9.134
180.00	6.8323	464.25	287.24	9.170
182.00	6.9108	470.82	291.78	9.207
184.00	6.9891	477.42	296.35	9.243
186.00	7.0674	484.07	300.97	9.279
188.00	7.1457	490.76	305.63	9.314
190.00	7.2238	497.49	310.34	9.350
192.00	7.3019	504.26	315.08	9.385
194.00	7.3800	511.07	319.87	9.421
196.00	7.4579	517.92	324.70	9.456
198.00	7.5359	524.81	329.57	9.491
200.00	7.6137	531.73	334.48	9.526
202.00	7.6916	538.70	339.43	9.560
204.00	7.7694	545.71	344.42	9.595
206.00	7.8471	552.75	349.45	9.629
208.00	7.9248	559.82	354.51	9.663
210.00	8.0025	566.94	359.61	9.697
212.00	8.0801	574.08	364.75	9.731
214.00	8.1577	581.27	369.92	9.765
216.00	8.2353	588.48	375.13	9.799
218.00	8.3128	595.73	380.36	9.832
220.00	8.3903	603.00	385.63	9.865
222.00	8.4678	610.31	390.93	9.898
224.00	8.5453	617.65	396.26	9.931
226.00	8.6227	625.01	401.62	9.964
228.00	8.7002	632.41	407.01	9.996
230.00	8.7776	639.83	412.43	10.029
232.00	8.8549	647.28	417.87	10.061
234.00	8.9323	654.75	423.34	10.093
236.00	9.0096	662.26	428.84	10.125
238.00	9.0870	669.78	434.36	10.157
240.00	9.1643	677.33	439.91	10.188
242.00	9.2415	684.90	445.48	10.220
244.00	9.3188	692.50	451.07	10.251
246.00	9.3961	700.11	456.69	10.282
248.00	9.4733	707.75	462.32	10.313
250.00	9.5505	715.41	467.98	10.344
252.00	9.6277	723.08	473.65	10.374
254.00	9.7049	730.77	479.35	10.405
256.00	9.7821	738.48	485.06	10.435
258.00	9.8592	746.21	490.78	10.465
260.00	9.9364	753.95	496.53	10.495

* PHASE CHANGE

TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)	TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)
262.00	10.0135	761.71	502.29	10.525	402.00	15.3817	1304.77	906.27	12.187
264.00	10.0906	769.48	508.06	10.554	404.00	15.4582	1312.30	911.81	12.206
266.00	10.1677	777.26	513.85	10.584	406.00	15.5346	1319.81	917.35	12.225
268.00	10.2447	785.06	519.64	10.613	408.00	15.6111	1327.32	922.88	12.243
270.00	10.3218	792.87	525.46	10.642	410.00	15.6875	1334.82	928.39	12.261
272.00	10.3988	800.66	531.25	10.671	412.00	15.7639	1342.31	933.90	12.280
274.00	10.4758	808.46	537.06	10.699	414.00	15.8404	1349.79	939.40	12.298
276.00	10.5528	816.27	542.87	10.728	416.00	15.9168	1357.26	944.90	12.316
278.00	10.6298	824.08	548.69	10.756	418.00	15.9933	1364.73	950.38	12.334
280.00	10.7068	831.90	554.52	10.784	420.00	16.0697	1372.19	955.86	12.352
282.00	10.7837	839.73	560.36	10.812	422.00	16.1462	1379.63	961.33	12.369
284.00	10.8606	847.57	566.20	10.839	424.00	16.2226	1387.07	966.79	12.387
286.00	10.9375	855.41	572.04	10.867	426.00	16.2990	1394.50	972.24	12.404
288.00	11.0144	863.25	577.89	10.894	428.00	16.3754	1401.93	977.68	12.422
290.00	11.0913	871.10	583.75	10.921	430.00	16.4518	1409.34	983.11	12.439
292.00	11.1682	878.95	589.61	10.948	432.00	16.5282	1416.74	988.54	12.456
294.00	11.2450	886.80	595.47	10.975	434.00	16.6046	1424.14	993.96	12.473
296.00	11.3219	894.66	601.34	11.002	436.00	16.6809	1431.52	999.36	12.490
298.00	11.3987	902.51	607.20	11.028	438.00	16.7573	1438.90	1004.76	12.507
300.00	11.4755	910.37	613.07	11.055	440.00	16.8336	1446.27	1010.15	12.524
302.00	11.5523	918.23	618.94	11.081	442.00	16.9099	1453.63	1015.54	12.541
304.00	11.6291	926.09	624.81	11.107	444.00	16.9862	1460.98	1020.91	12.557
306.00	11.7059	933.95	630.68	11.132	446.00	17.0625	1468.33	1026.28	12.574
308.00	11.7826	941.81	636.55	11.158	448.00	17.1388	1475.66	1031.64	12.590
310.00	11.8594	949.66	642.42	11.183	450.00	17.2151	1482.99	1036.99	12.606
312.00	11.9361	957.52	648.29	11.209	452.00	17.2913	1490.33	1042.35	12.623
314.00	12.0128	965.37	654.15	11.234	454.00	17.3675	1497.65	1047.71	12.639
316.00	12.0896	973.22	660.01	11.259	456.00	17.4437	1504.97	1053.05	12.655
318.00	12.1663	981.07	665.88	11.283	458.00	17.5199	1512.29	1058.39	12.671
320.00	12.2430	988.92	671.73	11.308	460.00	17.5961	1519.59	1063.72	12.687
322.00	12.3197	996.76	677.59	11.332	462.00	17.6722	1526.89	1069.04	12.703
324.00	12.3963	1004.60	683.44	11.357	464.00	17.7484	1534.18	1074.36	12.718
326.00	12.4730	1012.43	689.29	11.381	466.00	17.8245	1541.46	1079.67	12.734
328.00	12.5497	1020.26	695.13	11.405	468.00	17.9006	1548.73	1084.97	12.750
330.00	12.6263	1028.09	700.97	11.429	470.00	17.9768	1556.00	1090.27	12.765
332.00	12.7030	1035.90	706.80	11.452	472.00	18.0529	1563.26	1095.56	12.781
334.00	12.7796	1043.72	712.63	11.476	474.00	18.1289	1570.52	1100.84	12.796
336.00	12.8563	1051.53	718.45	11.499	476.00	18.2050	1577.77	1106.12	12.811
338.00	12.9329	1059.33	724.27	11.522	478.00	18.2811	1585.01	1111.39	12.826
340.00	13.0095	1067.13	730.08	11.545	480.00	18.3572	1592.24	1116.66	12.841
342.00	13.0862	1074.92	735.89	11.568	482.00	18.4333	1599.47	1121.91	12.856
344.00	13.1628	1082.70	741.69	11.591	484.00	18.5094	1606.70	1127.17	12.871
346.00	13.2394	1090.47	747.48	11.613	486.00	18.5855	1613.92	1132.41	12.886
348.00	13.3160	1098.24	753.26	11.636	488.00	18.6615	1621.13	1137.66	12.901
350.00	13.3926	1106.01	759.04	11.658	490.00	18.7376	1628.34	1142.89	12.916
352.00	13.4692	1113.76	764.81	11.680	492.00	18.8138	1635.54	1148.12	12.931
354.00	13.5458	1121.51	770.57	11.702	494.00	18.8899	1642.74	1153.35	12.945
356.00	13.6224	1129.24	776.32	11.724	496.00	18.9660	1649.93	1158.57	12.960
358.00	13.6990	1136.98	782.07	11.745	498.00	19.0422	1657.12	1163.79	12.974
360.00	13.7755	1144.70	787.81	11.767	500.00	19.1184	1664.31	1169.00	12.989
362.00	13.8521	1152.41	793.54	11.788	502.00	19.1946	1671.49	1174.21	13.003
364.00	13.9286	1160.11	799.26	11.809	504.00	19.2708	1678.67	1179.41	13.017
366.00	14.0051	1167.80	804.97	11.830	506.00	19.3470	1685.84	1184.61	13.031
368.00	14.0816	1175.49	810.67	11.851	508.00	19.4233	1693.01	1189.80	13.045
370.00	14.1581	1183.16	816.36	11.872	510.00	19.4996	1700.18	1195.00	13.060
372.00	14.2346	1190.83	822.05	11.893	512.00	19.5759	1707.34	1200.18	13.074
374.00	14.3111	1198.49	827.72	11.913	514.00	19.6523	1714.50	1205.36	13.088
376.00	14.3876	1206.14	833.39	11.934	516.00	19.7286	1721.66	1210.54	13.101
378.00	14.4641	1213.78	839.05	11.954	518.00	19.8051	1728.82	1215.72	13.115
380.00	14.5406	1221.41	844.70	11.974	520.00	19.8815	1735.97	1220.89	13.129
382.00	14.6171	1229.03	850.34	11.994	522.00	19.9580	1743.12	1226.06	13.143
384.00	14.6935	1236.65	855.98	12.014	524.00	20.0345	1750.26	1231.22	13.156
386.00	14.7700	1244.25	861.60	12.034	526.00	20.1110	1757.40	1236.38	13.170
388.00	14.8465	1251.85	867.21	12.053	528.00	20.1875	1764.54	1241.54	13.184
390.00	14.9230	1259.44	872.82	12.073	530.00	20.2641	1771.68	1246.69	13.197
392.00	14.9994	1267.01	878.42	12.092	532.00	20.3407	1778.82	1251.84	13.211
394.00	15.0759	1274.58	884.01	12.112	534.00	20.4173	1785.95	1256.99	13.224
396.00	15.1524	1282.14	889.59	12.131	536.00	20.4939	1793.07	1262.13	13.237
398.00	15.2288	1289.69	895.16	12.150	538.00	20.5705	1800.20	1267.27	13.250
400.00	15.3053	1297.24	900.72	12.169	540.00	20.6472	1807.32	1272.40	13.264

160.00 PSIA ISOBAR

TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)
36.00	.2213	-106.86	-113.41	1.834
38.00	.2250	-102.35	-109.01	1.955
40.00	.2292	-97.53	-104.32	2.079
42.00	.2339	-92.38	-99.31	2.205
44.00	.2392	-86.85	-93.93	2.333
46.00	.2453	-80.87	-88.13	2.466
48.00	.2524	-74.36	-81.83	2.605
50.00	.2609	-67.16	-74.89	2.751
52.00	.2717	-59.06	-67.10	2.910
54.00	.2861	-49.60	-58.07	3.089
56.00	.3086	-37.46	-46.60	3.309
* 57.424	.3446	-24.27	-44.84	3.541
* 57.424	1.0064	67.33	37.53	5.141
58.00	1.0790	73.70	41.75	5.252
60.00	1.2612	88.77	51.43	5.507
62.00	1.4021	99.80	58.28	5.688
64.00	1.5251	109.13	63.98	5.837
66.00	1.6376	117.52	69.03	5.966
68.00	1.7430	125.29	73.69	6.082
70.00	1.8434	132.65	78.07	6.188
72.00	1.9399	139.69	82.25	6.288
74.00	2.0333	146.50	86.30	6.381
76.00	2.1242	153.12	90.23	6.469
78.00	2.2131	159.59	94.07	6.553
80.00	2.3001	165.94	97.83	6.634
82.00	2.3856	172.18	101.54	6.711
84.00	2.4698	178.33	105.20	6.785
86.00	2.5528	184.40	108.82	6.856
88.00	2.6347	190.41	112.40	6.925
90.00	2.7157	196.36	115.96	6.992
92.00	2.7958	202.26	119.49	7.057
94.00	2.8751	208.12	122.99	7.120
96.00	2.9537	213.94	126.49	7.181
98.00	3.0317	219.73	129.96	7.241
100.00	3.1090	225.48	133.43	7.299
102.00	3.1859	231.22	136.89	7.356
104.00	3.2622	236.93	140.34	7.411
106.00	3.3380	242.62	143.79	7.465
108.00	3.4134	248.30	147.24	7.519
110.00	3.4884	253.98	150.69	7.571
112.00	3.5630	259.64	154.15	7.622
114.00	3.6373	265.30	157.61	7.672
116.00	3.7112	270.96	161.08	7.721
118.00	3.7849	276.62	164.56	7.769
120.00	3.8582	282.28	168.05	7.817
122.00	3.9312	287.95	171.56	7.864
124.00	4.0040	293.63	175.08	7.910
126.00	4.0766	299.32	178.62	7.955
128.00	4.1489	305.02	182.18	8.000
130.00	4.2210	310.74	185.76	8.045
132.00	4.2929	316.48	189.37	8.088
134.00	4.3646	322.23	193.00	8.132
136.00	4.4362	328.01	196.66	8.174
138.00	4.5075	333.80	200.34	8.217
140.00	4.5787	339.63	204.06	8.259
142.00	4.6497	345.48	207.81	8.300
144.00	4.7206	351.36	211.59	8.341
146.00	4.7913	357.27	215.41	8.382
148.00	4.8619	363.21	219.26	8.422
150.00	4.9324	369.19	223.15	8.463
152.00	5.0027	375.19	227.07	8.502
154.00	5.0730	381.24	231.04	8.542
156.00	5.1431	387.32	235.04	8.581
158.00	5.2131	393.44	239.09	8.620
160.00	5.2830	399.59	243.17	8.659
162.00	5.3528	405.79	247.30	8.697
164.00	5.4225	412.03	251.47	8.736
166.00	5.4921	418.30	255.69	8.774
168.00	5.5616	424.62	259.95	8.811
170.00	5.6311	430.98	264.25	8.849
172.00	5.7005	437.37	268.59	8.886
174.00	5.7698	443.81	272.98	8.924
176.00	5.8390	450.29	277.41	8.961
178.00	5.9081	456.81	281.88	8.998
180.00	5.9772	463.36	286.39	9.034
182.00	6.0462	469.95	290.94	9.071
184.00	6.1150	476.58	295.52	9.107
186.00	6.1838	483.25	300.15	9.143
188.00	6.2525	489.95	304.83	9.179
190.00	6.3211	496.70	309.54	9.214
192.00	6.3896	503.49	314.30	9.250
194.00	6.4581	510.32	319.10	9.285
196.00	6.5265	517.18	323.94	9.320
198.00	6.5949	524.09	328.82	9.356
200.00	6.6632	531.03	333.74	9.390
202.00	6.7315	538.01	338.70	9.425
204.00	6.7997	545.03	343.70	9.460
206.00	6.8679	552.09	348.74	9.494
208.00	6.9361	559.18	353.81	9.528
210.00	7.0042	566.30	358.92	9.563
212.00	7.0723	573.47	364.07	9.596
214.00	7.1403	580.66	369.25	9.630
216.00	7.2083	587.89	374.46	9.664
218.00	7.2763	595.15	379.71	9.697
220.00	7.3443	602.43	384.98	9.731
222.00	7.4123	609.75	390.29	9.764
224.00	7.4802	617.10	395.62	9.797
226.00	7.5481	624.48	400.99	9.829
228.00	7.6160	631.88	406.39	9.862
230.00	7.6839	639.32	411.81	9.895
232.00	7.7517	646.78	417.26	9.927
234.00	7.8196	654.26	422.74	9.959
236.00	7.8874	661.78	428.24	9.991
238.00	7.9552	669.31	433.77	10.023
240.00	8.0230	676.87	439.32	10.054
242.00	8.0907	684.45	444.90	10.086
244.00	8.1585	692.06	450.50	10.117
246.00	8.2262	699.68	456.12	10.148
248.00	8.2940	707.33	461.76	10.179
250.00	8.3617	715.00	467.42	10.210
252.00	8.4294	722.68	473.10	10.241
254.00	8.4970	730.38	478.80	10.271
256.00	8.5647	738.10	484.51	10.301
258.00	8.6323	745.84	490.24	10.331
260.00	8.7000	753.59	495.99	10.361

* PHASE CHANGE

TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)	TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)
262.00	8.7676	761.35	501.76	10.391	402.00	13.4702	1304.80	905.97	12.055
264.00	8.8352	769.13	507.53	10.421	404.00	13.5371	1312.33	911.51	12.074
266.00	8.9028	776.92	513.32	10.450	406.00	13.6041	1319.85	917.05	12.092
268.00	8.9703	784.72	519.13	10.479	408.00	13.6710	1327.36	922.58	12.111
270.00	9.0379	792.54	524.94	10.508	410.00	13.7379	1334.86	928.10	12.129
272.00	9.1054	800.34	530.74	10.537	412.00	13.8049	1342.35	933.61	12.147
274.00	9.1729	808.15	536.55	10.566	414.00	13.8718	1349.83	939.11	12.165
276.00	9.2404	815.96	542.37	10.594	416.00	13.9387	1357.31	944.61	12.183
278.00	9.3079	823.79	548.20	10.622	418.00	14.0057	1364.78	950.10	12.201
280.00	9.3753	831.62	554.03	10.650	420.00	14.0726	1372.24	955.57	12.219
282.00	9.4427	839.45	559.87	10.678	422.00	14.1395	1379.69	961.04	12.237
284.00	9.5102	847.30	565.71	10.706	424.00	14.2064	1387.14	966.51	12.254
286.00	9.5776	855.14	571.57	10.734	426.00	14.2733	1394.57	971.96	12.272
288.00	9.6450	862.99	577.42	10.761	428.00	14.3402	1401.99	977.40	12.289
290.00	9.7123	870.85	583.28	10.788	430.00	14.4071	1409.41	982.84	12.307
292.00	9.7797	878.71	589.14	10.815	432.00	14.4740	1416.82	988.26	12.324
294.00	9.8470	886.57	595.01	10.842	434.00	14.5408	1424.22	993.68	12.341
296.00	9.9144	894.43	600.88	10.869	436.00	14.6077	1431.60	999.09	12.358
298.00	9.9817	902.29	606.75	10.895	438.00	14.6745	1438.99	1004.49	12.375
300.00	10.0490	910.16	612.62	10.921	440.00	14.7414	1446.36	1009.89	12.391
302.00	10.1162	918.02	618.50	10.947	442.00	14.8082	1453.72	1015.27	12.408
304.00	10.1835	925.89	624.37	10.973	444.00	14.8750	1461.08	1020.65	12.425
306.00	10.2508	933.75	630.24	10.999	446.00	14.9418	1468.42	1026.02	12.441
308.00	10.3180	941.62	636.12	11.025	448.00	15.0085	1475.76	1031.38	12.458
310.00	10.3852	949.48	641.99	11.050	450.00	15.0753	1483.09	1036.74	12.474
312.00	10.4525	957.34	647.86	11.076	452.00	15.1420	1490.43	1042.10	12.490
314.00	10.5197	965.20	653.73	11.101	454.00	15.2088	1497.76	1047.45	12.506
316.00	10.5869	973.06	659.60	11.126	456.00	15.2755	1505.08	1052.80	12.523
318.00	10.6541	980.91	665.46	11.150	458.00	15.3422	1512.40	1058.14	12.539
320.00	10.7212	988.76	671.32	11.175	460.00	15.4089	1519.71	1063.47	12.555
322.00	10.7884	996.61	677.18	11.199	462.00	15.4756	1527.01	1068.80	12.570
324.00	10.8556	1004.46	683.04	11.224	464.00	15.5422	1534.30	1074.12	12.586
326.00	10.9228	1012.29	688.89	11.248	466.00	15.6089	1541.59	1079.43	12.602
328.00	10.9899	1020.13	694.74	11.272	468.00	15.6755	1548.86	1084.74	12.617
330.00	11.0571	1027.96	700.58	11.296	470.00	15.7422	1556.13	1090.03	12.633
332.00	11.1242	1035.78	706.41	11.319	472.00	15.8088	1563.40	1095.32	12.648
334.00	11.1913	1043.60	712.25	11.343	474.00	15.8754	1570.66	1100.61	12.664
336.00	11.2585	1051.42	718.07	11.366	476.00	15.9420	1577.91	1105.89	12.679
338.00	11.3256	1059.22	723.89	11.389	478.00	16.0086	1585.15	1111.16	12.694
340.00	11.3927	1067.03	729.70	11.412	480.00	16.0752	1592.39	1116.43	12.709
342.00	11.4598	1074.82	735.51	11.435	482.00	16.1418	1599.62	1121.69	12.724
344.00	11.5269	1082.61	741.31	11.458	484.00	16.2085	1606.85	1126.94	12.739
346.00	11.5940	1090.39	747.11	11.480	486.00	16.2751	1614.07	1132.19	12.754
348.00	11.6612	1098.16	752.89	11.503	488.00	16.3417	1621.29	1137.43	12.769
350.00	11.7282	1105.93	758.67	11.525	490.00	16.4083	1628.50	1142.67	12.784
352.00	11.7953	1113.69	764.45	11.547	492.00	16.4749	1635.70	1147.91	12.798
354.00	11.8624	1121.44	770.21	11.569	494.00	16.5416	1642.90	1153.13	12.813
356.00	11.9295	1129.18	775.97	11.591	496.00	16.6082	1650.10	1158.36	12.827
358.00	11.9966	1136.92	781.72	11.613	498.00	16.6749	1657.29	1163.57	12.842
360.00	12.0637	1144.64	787.46	11.634	500.00	16.7416	1664.48	1168.79	12.856
362.00	12.1307	1152.36	793.19	11.655	502.00	16.8083	1671.66	1174.00	12.871
364.00	12.1977	1160.06	798.91	11.677	504.00	16.8750	1678.84	1179.20	12.885
366.00	12.2647	1167.76	804.62	11.698	506.00	16.9417	1686.02	1184.40	12.899
368.00	12.3317	1175.45	810.33	11.719	508.00	17.0085	1693.19	1189.60	12.913
370.00	12.3987	1183.13	816.02	11.740	510.00	17.0753	1700.36	1194.79	12.927
372.00	12.4657	1190.80	821.71	11.760	512.00	17.1421	1707.53	1199.98	12.941
374.00	12.5327	1198.46	827.39	11.781	514.00	17.2089	1714.69	1205.16	12.955
376.00	12.5997	1206.12	833.06	11.801	516.00	17.2758	1721.85	1210.34	12.969
378.00	12.6667	1213.76	838.72	11.821	518.00	17.3427	1729.00	1215.52	12.983
380.00	12.7337	1221.40	844.37	11.842	520.00	17.4096	1736.16	1220.69	12.997
382.00	12.8006	1229.02	850.02	11.862	522.00	17.4765	1743.31	1225.86	13.011
384.00	12.8676	1236.64	855.65	11.881	524.00	17.5434	1750.45	1231.02	13.024
386.00	12.9346	1244.25	861.28	11.901	526.00	17.6104	1757.60	1236.18	13.038
388.00	13.0015	1251.85	866.89	11.921	528.00	17.6774	1764.74	1241.34	13.051
390.00	13.0685	1259.44	872.50	11.940	530.00	17.7444	1771.88	1246.49	13.065
392.00	13.1355	1267.02	878.10	11.960	532.00	17.8114	1779.01	1251.64	13.078
394.00	13.2024	1274.60	883.69	11.979	534.00	17.8785	1786.14	1256.79	13.092
396.00	13.2694	1282.16	889.27	11.998	536.00	17.9455	1793.27	1261.93	13.105
398.00	13.3363	1289.71	894.85	12.017	538.00	18.0125	1800.40	1267.07	13.118
400.00	13.4033	1297.26	900.41	12.036	540.00	18.0796	1807.52	1272.21	13.132

180.00 PSIA ISOBAR

TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)
36.00	.2208	-106.28	-113.63	1.827
38.00	.2244	-101.79	-109.27	1.948
40.00	.2285	-97.01	-104.62	2.071
42.00	.2331	-91.90	-99.66	2.196
44.00	.2383	-86.42	-94.36	2.323
46.00	.2442	-80.51	-88.65	2.454
48.00	.2510	-74.10	-82.46	2.591
50.00	.2591	-67.05	-75.69	2.734
52.00	.2692	-59.19	-68.15	2.889
54.00	.2822	-50.16	-59.56	3.059
56.00	.3012	-39.13	-47.17	3.259
58.00	.3388	-22.53	-33.81	3.550
*58.860	.3978	-8.28	-34.99	3.793
*58.860				
60.00				
62.00				
64.00				
66.00				
68.00				
70.00	1.5778	126.59	74.03	6.012
72.00	1.6688	134.12	78.53	6.118
74.00	1.7562	141.33	82.83	6.216
76.00	1.8407	148.28	86.97	6.309
78.00	1.9229	155.04	90.99	6.397
80.00	2.0032	161.64	94.92	6.481
82.00	2.0818	168.10	98.76	6.560
84.00	2.1589	174.46	102.54	6.637
86.00	2.2348	180.71	106.27	6.710
88.00	2.3096	186.89	109.96	6.781
90.00	2.3833	192.99	113.60	6.850
92.00	2.4562	199.03	117.22	6.916
94.00	2.5282	205.02	120.80	6.981
96.00	2.5996	210.96	124.37	7.043
98.00	2.6702	216.86	127.91	7.104
100.00	2.7403	222.72	131.44	7.163
102.00	2.8097	228.55	134.96	7.221
104.00	2.8787	234.36	138.47	7.278
106.00	2.9472	240.14	141.97	7.333
108.00	3.0152	245.91	145.47	7.386
110.00	3.0828	251.66	148.97	7.439
112.00	3.1501	257.40	152.48	7.491
114.00	3.2169	263.13	155.98	7.542
116.00	3.2835	268.86	159.49	7.592
118.00	3.3497	274.59	163.01	7.640
120.00	3.4156	280.31	166.54	7.689
122.00	3.4813	286.04	170.08	7.736
124.00	3.5467	291.78	173.64	7.783
126.00	3.6118	297.52	177.21	7.828
128.00	3.6767	303.28	180.81	7.874
130.00	3.7414	309.04	184.42	7.919
132.00	3.8059	314.83	188.05	7.963
134.00	3.8702	320.63	191.71	8.006
136.00	3.9343	326.45	195.40	8.049
138.00	3.9983	332.29	199.11	8.092
140.00	4.0621	338.16	202.85	8.134
142.00	4.1257	344.05	206.63	8.176
144.00	4.1891	349.97	210.43	8.217
146.00	4.2524	355.91	214.27	8.258
148.00	4.3156	361.89	218.14	8.299
150.00	4.3787	367.90	222.05	8.339
152.00	4.4416	373.94	226.00	8.379
154.00	4.5044	380.02	229.98	8.419
156.00	4.5671	386.13	234.00	8.459
158.00	4.6297	392.28	238.07	8.498
160.00	4.6922	398.47	242.17	8.537
162.00	4.7546	404.69	246.32	8.575
164.00	4.8169	410.96	250.51	8.614
166.00	4.8791	417.26	254.74	8.652
168.00	4.9412	423.60	259.01	8.690
170.00	5.0033	429.98	263.33	8.728
172.00	5.0652	436.41	267.69	8.765
174.00	5.1271	442.87	272.09	8.803
176.00	5.1889	449.37	276.53	8.840
178.00	5.2507	455.91	281.01	8.877
180.00	5.3123	462.49	285.54	8.913
182.00	5.3739	469.10	290.10	8.950
184.00	5.4353	475.75	294.70	8.986
186.00	5.4967	482.43	299.34	9.022
188.00	5.5579	489.16	304.02	9.058
190.00	5.6191	495.92	308.75	9.094
192.00	5.6803	502.73	313.52	9.130
194.00	5.7413	509.57	318.33	9.165
196.00	5.8023	516.45	323.18	9.201
198.00	5.8632	523.37	328.07	9.236
200.00	5.9241	530.33	333.00	9.271
202.00	5.9850	537.33	337.97	9.306
204.00	6.0458	544.36	342.98	9.340
206.00	6.1065	551.43	348.03	9.375
208.00	6.1672	558.54	353.11	9.409
210.00	6.2279	565.68	358.23	9.443
212.00	6.2886	572.85	363.39	9.477
214.00	6.3492	580.06	368.58	9.511
216.00	6.4098	587.30	373.80	9.545
218.00	6.4703	594.57	379.05	9.578
220.00	6.5309	601.87	384.33	9.611
222.00	6.5914	609.20	389.65	9.645
224.00	6.6519	616.56	394.99	9.678
226.00	6.7124	623.95	400.36	9.711
228.00	6.7729	631.37	405.77	9.743
230.00	6.8333	638.81	411.20	9.776
232.00	6.8938	646.28	416.66	9.808
234.00	6.9542	653.78	422.14	9.840
236.00	7.0146	661.30	427.65	9.872
238.00	7.0750	668.85	433.18	9.904
240.00	7.1354	676.42	438.74	9.936
242.00	7.1958	684.01	444.32	9.967
244.00	7.2561	691.63	449.93	9.999
246.00	7.3165	699.26	455.55	10.030
248.00	7.3768	706.92	461.20	10.061
250.00	7.4371	714.59	466.86	10.092
252.00	7.4974	722.28	472.55	10.122
254.00	7.5577	730.00	478.25	10.153
256.00	7.6180	737.72	483.97	10.183
258.00	7.6782	745.47	489.71	10.213
260.00	7.7385	753.23	495.46	10.243

* PHASE CHANGE

TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)	TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)
262.00	7.7987	761.00	501.23	10.273	402.00	11.9835	1304.83	905.66	11.938
264.00	7.8589	768.79	507.01	10.302	404.00	12.0431	1312.36	911.21	11.957
266.00	7.9191	776.59	512.81	10.332	406.00	12.1026	1319.88	916.75	11.975
268.00	7.9792	784.40	518.61	10.361	408.00	12.1621	1327.39	922.28	11.994
270.00	8.0394	792.22	524.43	10.390	410.00	12.2217	1334.90	927.80	12.012
272.00	8.0995	800.03	530.24	10.419	412.00	12.2812	1342.40	933.32	12.030
274.00	8.1596	807.85	536.05	10.448	414.00	12.3407	1349.88	938.82	12.048
276.00	8.2197	815.67	541.88	10.476	416.00	12.4003	1357.36	944.32	12.066
278.00	8.2798	823.50	547.71	10.504	418.00	12.4598	1364.84	949.81	12.084
280.00	8.3398	831.34	553.54	10.532	420.00	12.5193	1372.30	955.29	12.102
282.00	8.3999	839.18	559.39	10.560	422.00	12.5788	1379.76	960.76	12.120
284.00	8.4599	847.03	565.24	10.588	424.00	12.6383	1387.20	966.22	12.137
286.00	8.5199	854.89	571.09	10.616	426.00	12.6978	1394.64	971.68	12.155
288.00	8.5799	862.74	576.95	10.643	428.00	12.7573	1402.07	977.13	12.172
290.00	8.6399	870.61	582.82	10.670	430.00	12.8168	1409.49	982.56	12.190
292.00	8.6998	878.47	588.68	10.697	432.00	12.8763	1416.90	987.99	12.207
294.00	8.7598	886.34	594.55	10.724	434.00	12.9358	1424.30	993.41	12.224
296.00	8.8197	894.21	600.43	10.751	436.00	12.9952	1431.69	998.83	12.241
298.00	8.8796	902.08	606.30	10.777	438.00	13.0547	1439.07	1004.23	12.258
300.00	8.9395	909.95	612.18	10.804	440.00	13.1141	1446.45	1009.62	12.275
302.00	8.9994	917.82	618.06	10.830	442.00	13.1735	1453.82	1015.01	12.291
304.00	9.0592	925.69	623.93	10.856	444.00	13.2329	1461.17	1020.39	12.308
306.00	9.1191	933.56	629.81	10.882	446.00	13.2923	1468.52	1025.76	12.324
308.00	9.1789	941.43	635.69	10.907	448.00	13.3517	1475.87	1031.13	12.341
310.00	9.2388	949.30	641.56	10.933	450.00	13.4111	1483.20	1036.48	12.357
312.00	9.2986	957.17	647.44	10.958	452.00	13.4705	1490.54	1041.85	12.374
314.00	9.3584	965.04	653.31	10.983	454.00	13.5298	1497.88	1047.21	12.390
316.00	9.4182	972.90	659.18	11.008	456.00	13.5891	1505.20	1052.56	12.406
318.00	9.4780	980.76	665.05	11.033	458.00	13.6485	1512.52	1057.90	12.422
320.00	9.5378	988.62	670.92	11.058	460.00	13.7078	1519.83	1063.23	12.438
322.00	9.5976	996.47	676.78	11.082	462.00	13.7671	1527.14	1068.56	12.454
324.00	9.6573	1004.32	682.64	11.106	464.00	13.8264	1534.43	1073.88	12.469
326.00	9.7171	1012.17	688.49	11.130	466.00	13.8857	1541.72	1079.19	12.485
328.00	9.7768	1020.01	694.34	11.154	468.00	13.9449	1549.00	1084.50	12.501
330.00	9.8366	1027.84	700.19	11.178	470.00	14.0042	1556.27	1089.80	12.516
332.00	9.8963	1035.67	706.03	11.202	472.00	14.0635	1563.54	1095.09	12.532
334.00	9.9561	1043.50	711.86	11.225	474.00	14.1227	1570.80	1100.38	12.547
336.00	10.0158	1051.31	717.69	11.249	476.00	14.1819	1578.06	1105.66	12.562
338.00	10.0755	1059.13	723.52	11.272	478.00	14.2412	1585.30	1110.94	12.577
340.00	10.1353	1066.93	729.33	11.295	480.00	14.3004	1592.54	1116.20	12.592
342.00	10.1950	1074.73	735.14	11.318	482.00	14.3597	1599.78	1121.47	12.608
344.00	10.2547	1082.52	740.95	11.341	484.00	14.4189	1607.01	1126.72	12.622
346.00	10.3144	1090.31	746.74	11.363	486.00	14.4782	1614.23	1131.97	12.637
348.00	10.3741	1098.09	752.53	11.385	488.00	14.5374	1621.45	1137.22	12.652
350.00	10.4338	1105.86	758.31	11.408	490.00	14.5966	1628.66	1142.46	12.667
352.00	10.4935	1113.62	764.09	11.430	492.00	14.6559	1635.87	1147.69	12.682
354.00	10.5532	1121.38	769.86	11.452	494.00	14.7152	1643.08	1152.92	12.696
356.00	10.6129	1129.13	775.61	11.474	496.00	14.7744	1650.27	1158.14	12.711
358.00	10.6726	1136.86	781.37	11.495	498.00	14.8337	1657.47	1163.36	12.725
360.00	10.7323	1144.60	787.11	11.517	500.00	14.8930	1664.66	1168.58	12.740
362.00	10.7919	1152.31	792.84	11.538	502.00	14.9524	1671.84	1173.79	12.754
364.00	10.8515	1160.02	798.56	11.560	504.00	15.0117	1679.03	1178.99	12.768
366.00	10.9112	1167.73	804.28	11.581	506.00	15.0710	1686.20	1184.19	12.783
368.00	10.9708	1175.42	809.99	11.602	508.00	15.1304	1693.38	1189.39	12.797
370.00	11.0304	1183.10	815.69	11.622	510.00	15.1898	1700.55	1194.58	12.811
372.00	11.0900	1190.78	821.37	11.643	512.00	15.2492	1707.72	1199.77	12.825
374.00	11.1496	1198.44	827.06	11.664	514.00	15.3086	1714.88	1204.96	12.839
376.00	11.2092	1206.10	832.73	11.684	516.00	15.3680	1722.04	1210.14	12.853
378.00	11.2688	1213.75	838.39	11.704	518.00	15.4275	1729.20	1215.31	12.866
380.00	11.3283	1221.39	844.05	11.724	520.00	15.4870	1736.35	1220.49	12.880
382.00	11.3879	1229.02	849.69	11.745	522.00	15.5465	1743.50	1225.66	12.894
384.00	11.4475	1236.64	855.33	11.764	524.00	15.6060	1750.65	1230.82	12.908
386.00	11.5071	1244.25	860.96	11.784	526.00	15.6655	1757.80	1235.99	12.921
388.00	11.5666	1251.86	866.58	11.804	528.00	15.7251	1764.94	1241.14	12.935
390.00	11.6262	1259.45	872.19	11.823	530.00	15.7847	1772.08	1246.30	12.948
392.00	11.6858	1267.04	877.79	11.843	532.00	15.8442	1779.21	1251.45	12.962
394.00	11.7453	1274.61	883.38	11.862	534.00	15.9038	1786.35	1256.60	12.975
396.00	11.8049	1282.18	888.96	11.881	536.00	15.9634	1793.48	1261.74	12.988
398.00	11.8644	1289.74	894.54	11.900	538.00	16.0230	1800.60	1266.88	13.002
400.00	11.9240	1297.29	900.10	11.919	540.00	16.0826	1807.72	1272.02	13.015

200.00 PSIA ISOBAR

TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)
36.00	.2203	-105.69	-113.84	1.821
38.00	.2239	-101.23	-109.52	1.941
40.00	.2279	-96.48	-104.92	2.063
42.00	.2324	-91.41	-100.01	2.187
44.00	.2374	-85.98	-94.77	2.313
46.00	.2431	-80.14	-89.14	2.443
48.00	.2497	-73.82	-83.06	2.577
50.00	.2575	-66.90	-76.43	2.718
52.00	.2669	-59.24	-69.12	2.868
54.00	.2789	-50.57	-60.90	3.032
56.00	.2955	-40.30	-51.24	3.219
58.00				
60.00				
62.00				
64.00				
66.00				
68.00	1.2710	111.46	64.42	5.716
70.00	1.3638	120.20	69.73	5.843
72.00	1.4509	128.31	74.61	5.957
74.00	1.5338	135.98	79.21	6.062
76.00	1.6135	143.31	83.59	6.160
78.00	1.6906	150.39	87.82	6.252
80.00	1.7656	157.26	91.92	6.339
82.00	1.8387	163.97	95.91	6.422
84.00	1.9103	170.53	99.83	6.501
86.00	1.9806	176.98	103.68	6.577
88.00	2.0496	183.33	107.47	6.650
90.00	2.1177	189.59	111.21	6.720
92.00	2.1848	195.78	114.92	6.788
94.00	2.2510	201.90	118.59	6.854
96.00	2.3165	207.96	122.23	6.918
98.00	2.3814	213.98	125.84	6.980
100.00	2.4455	219.95	129.44	7.040
102.00	2.5091	225.89	133.02	7.099
104.00	2.5722	231.79	136.59	7.156
106.00	2.6348	237.66	140.15	7.212
108.00	2.6969	243.52	143.70	7.267
110.00	2.7587	249.35	147.25	7.320
112.00	2.8200	255.17	150.80	7.373
114.00	2.8809	260.97	154.35	7.424
116.00	2.9416	266.77	157.90	7.474
118.00	3.0019	272.56	161.46	7.524
120.00	3.0619	278.35	165.03	7.572
122.00	3.1216	284.14	168.61	7.620
124.00	3.1811	289.93	172.20	7.667
126.00	3.2403	295.73	175.81	7.714
128.00	3.2993	301.54	179.43	7.760
130.00	3.3580	307.36	183.07	7.805
132.00	3.4166	313.19	186.74	7.849
134.00	3.4750	319.04	190.43	7.893
136.00	3.5331	324.90	194.14	7.937
138.00	3.5911	330.79	197.88	7.980
140.00	3.6490	336.70	201.64	8.022
142.00	3.7067	342.63	205.44	8.064
144.00	3.7642	348.58	209.27	8.106
146.00	3.8216	354.57	213.13	8.147
148.00	3.8788	360.58	217.02	8.188
150.00	3.9360	366.63	220.95	8.229
152.00	3.9929	372.70	224.92	8.269
154.00	4.0498	378.81	228.93	8.309
156.00	4.1066	384.96	232.97	8.348
158.00	4.1633	391.13	237.05	8.388
160.00	4.2198	397.35	241.17	8.427
162.00	4.2763	403.60	245.34	8.466
164.00	4.3326	409.90	249.54	8.504
166.00	4.3889	416.22	253.79	8.543
168.00	4.4451	422.59	258.08	8.581
170.00	4.5012	429.00	262.41	8.619
172.00	4.5572	435.45	266.78	8.656
174.00	4.6132	441.93	271.20	8.694
176.00	4.6691	448.46	275.66	8.731
178.00	4.7249	455.02	280.15	8.768
180.00	4.7806	461.62	284.69	8.805
182.00	4.8362	468.26	289.26	8.842
184.00	4.8917	474.92	293.87	8.878
186.00	4.9472	481.62	298.53	8.914
188.00	5.0025	488.37	303.22	8.950
190.00	5.0577	495.15	307.96	8.986
192.00	5.1129	501.97	312.74	9.022
194.00	5.1680	508.83	317.56	9.058
196.00	5.2231	515.73	322.42	9.093
198.00	5.2781	522.67	327.32	9.128
200.00	5.3330	529.64	332.27	9.163
202.00	5.3879	536.65	337.25	9.198
204.00	5.4427	543.70	342.26	9.233
206.00	5.4975	550.79	347.32	9.267
208.00	5.5523	557.91	352.41	9.302
210.00	5.6071	565.06	357.54	9.336
212.00	5.6618	572.25	362.70	9.370
214.00	5.7164	579.47	367.90	9.404
216.00	5.7711	586.73	373.13	9.438
218.00	5.8257	594.01	378.39	9.471
220.00	5.8803	601.32	383.68	9.505
222.00	5.9349	608.66	389.01	9.538
224.00	5.9895	616.03	394.36	9.571
226.00	6.0441	623.43	399.74	9.604
228.00	6.0986	630.86	405.15	9.637
230.00	6.1531	638.32	410.59	9.669
232.00	6.2076	645.80	416.05	9.702
234.00	6.2621	653.31	421.54	9.734
236.00	6.3166	660.84	427.06	9.766
238.00	6.3711	668.40	432.60	9.798
240.00	6.4256	675.98	438.16	9.829
242.00	6.4800	683.58	443.75	9.861
244.00	6.5345	691.20	449.36	9.892
246.00	6.5889	698.85	454.99	9.924
248.00	6.6433	706.51	460.64	9.955
250.00	6.6977	714.20	466.31	9.985
252.00	6.7521	721.90	472.00	10.016
254.00	6.8064	729.62	477.71	10.047
256.00	6.8608	737.36	483.44	10.077
258.00	6.9151	745.11	489.18	10.107
260.00	6.9694	752.88	494.93	10.137

TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)	TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)
262.00	7.0237	760.66	500.71	10.167	402.00	10.7943	1304.86	905.36	11.833
264.00	7.0780	768.45	506.49	10.197	404.00	10.8479	1312.40	910.91	11.852
266.00	7.1323	776.26	512.29	10.226	406.00	10.9015	1319.92	916.45	11.871
268.00	7.1865	784.08	518.10	10.255	408.00	10.9552	1327.44	921.98	11.889
270.00	7.2408	791.91	523.93	10.284	410.00	11.0088	1334.95	927.51	11.907
272.00	7.2950	799.73	529.74	10.313	412.00	11.0624	1342.45	933.02	11.926
274.00	7.3492	807.55	535.55	10.342	414.00	11.1160	1349.94	938.53	11.944
276.00	7.4033	815.38	541.38	10.370	416.00	11.1696	1357.42	944.03	11.962
278.00	7.4575	823.22	547.22	10.399	418.00	11.2232	1364.90	949.52	11.980
280.00	7.5116	831.07	553.06	10.427	420.00	11.2768	1372.37	955.00	11.998
282.00	7.5658	838.92	558.90	10.455	422.00	11.3304	1379.82	960.48	12.015
284.00	7.6199	846.77	564.76	10.483	424.00	11.3840	1387.27	965.94	12.033
286.00	7.6739	854.63	570.62	10.510	426.00	11.4376	1394.71	971.40	12.050
288.00	7.7280	862.50	576.48	10.538	428.00	11.4911	1402.14	976.85	12.068
290.00	7.7821	870.37	582.35	10.565	430.00	11.5447	1409.57	982.29	12.085
292.00	7.8361	878.24	588.22	10.592	432.00	11.5983	1416.98	987.72	12.102
294.00	7.8901	886.11	594.09	10.619	434.00	11.6518	1424.38	993.14	12.119
296.00	7.9441	893.99	599.97	10.645	436.00	11.7054	1431.78	998.56	12.136
298.00	7.9981	901.86	605.85	10.672	438.00	11.7589	1439.17	1003.96	12.153
300.00	8.0521	909.74	611.73	10.698	440.00	11.8124	1446.55	1009.36	12.170
302.00	8.1060	917.62	617.61	10.724	442.00	11.8659	1453.92	1014.75	12.187
304.00	8.1600	925.50	623.49	10.750	444.00	11.9194	1461.28	1020.13	12.203
306.00	8.2139	933.38	629.37	10.776	446.00	11.9729	1468.63	1025.51	12.220
308.00	8.2678	941.25	635.26	10.802	448.00	12.0264	1475.97	1030.87	12.236
310.00	8.3217	949.13	641.14	10.827	450.00	12.0798	1483.31	1036.23	12.253
312.00	8.3756	957.00	647.01	10.853	452.00	12.1333	1490.66	1041.60	12.269
314.00	8.4295	964.87	652.89	10.878	454.00	12.1867	1497.99	1046.96	12.285
316.00	8.4834	972.74	658.77	10.903	456.00	12.2402	1505.32	1052.31	12.301
318.00	8.5373	980.61	664.64	10.928	458.00	12.2936	1512.64	1057.65	12.317
320.00	8.5911	988.47	670.51	10.952	460.00	12.3470	1519.96	1062.99	12.333
322.00	8.6450	996.33	676.37	10.977	462.00	12.4004	1527.26	1068.32	12.349
324.00	8.6988	1004.19	682.24	11.001	464.00	12.4538	1534.56	1073.64	12.365
326.00	8.7527	1012.04	688.09	11.025	466.00	12.5072	1541.85	1078.96	12.381
328.00	8.8065	1019.88	693.95	11.049	468.00	12.5605	1549.14	1084.27	12.396
330.00	8.8603	1027.72	699.80	11.073	470.00	12.6139	1556.42	1089.57	12.412
332.00	8.9142	1035.56	705.64	11.097	472.00	12.6673	1563.69	1094.86	12.427
334.00	8.9680	1043.39	711.48	11.120	474.00	12.7206	1570.95	1100.15	12.442
336.00	9.0218	1051.21	717.31	11.144	476.00	12.7740	1578.21	1105.43	12.458
338.00	9.0756	1059.03	723.14	11.167	478.00	12.8273	1585.46	1110.71	12.473
340.00	9.1294	1066.84	728.95	11.190	480.00	12.8807	1592.70	1115.98	12.488
342.00	9.1832	1074.65	734.77	11.213	482.00	12.9340	1599.94	1121.24	12.503
344.00	9.2370	1082.44	740.57	11.235	484.00	12.9874	1607.17	1126.50	12.518
346.00	9.2908	1090.23	746.37	11.258	486.00	13.0407	1614.40	1131.75	12.533
348.00	9.3446	1098.02	752.17	11.280	488.00	13.0941	1621.62	1137.00	12.548
350.00	9.3984	1105.79	757.95	11.303	490.00	13.1474	1628.83	1142.24	12.563
352.00	9.4522	1113.56	763.73	11.325	492.00	13.2008	1636.04	1147.47	12.577
354.00	9.5060	1121.32	769.50	11.347	494.00	13.2541	1643.25	1152.70	12.592
356.00	9.5598	1129.07	775.26	11.369	496.00	13.3075	1650.45	1157.93	12.606
358.00	9.6135	1136.82	781.01	11.390	498.00	13.3609	1657.65	1163.15	12.621
360.00	9.6673	1144.55	786.76	11.412	500.00	13.4143	1664.84	1168.37	12.635
362.00	9.7210	1152.27	792.49	11.433	502.00	13.4677	1672.03	1173.58	12.650
364.00	9.7747	1159.99	798.22	11.455	504.00	13.5211	1679.21	1178.78	12.664
366.00	9.8284	1167.69	803.94	11.476	506.00	13.5746	1686.39	1183.99	12.678
368.00	9.8821	1175.39	809.65	11.497	508.00	13.6280	1693.56	1189.18	12.692
370.00	9.9356	1183.08	815.35	11.518	510.00	13.6815	1700.74	1194.38	12.706
372.00	9.9895	1190.76	821.04	11.538	512.00	13.7349	1707.91	1199.57	12.720
374.00	10.0432	1198.43	826.72	11.559	514.00	13.7884	1715.07	1204.75	12.734
376.00	10.0969	1206.09	832.40	11.579	516.00	13.8420	1722.23	1209.94	12.748
378.00	10.1505	1213.74	838.06	11.600	518.00	13.8955	1729.39	1215.11	12.762
380.00	10.2042	1221.39	843.72	11.620	520.00	13.9490	1736.55	1220.29	12.776
382.00	10.2579	1229.02	849.37	11.640	522.00	14.0026	1743.70	1225.46	12.790
384.00	10.3115	1236.64	855.01	11.660	524.00	14.0562	1750.85	1230.62	12.803
386.00	10.3652	1244.26	860.64	11.679	526.00	14.1098	1758.00	1235.79	12.817
388.00	10.4188	1251.87	866.26	11.699	528.00	14.1634	1765.14	1240.95	12.830
390.00	10.4725	1259.47	871.87	11.719	530.00	14.2170	1772.28	1246.10	12.844
392.00	10.5261	1267.05	877.48	11.738	532.00	14.2706	1779.42	1251.26	12.857
394.00	10.5798	1274.63	883.07	11.757	534.00	14.3243	1786.55	1256.40	12.871
396.00	10.6334	1282.20	888.66	11.776	536.00	14.3779	1793.68	1261.55	12.884
398.00	10.6870	1289.77	894.23	11.795	538.00	14.4315	1800.81	1266.69	12.897
400.00	10.7407	1297.32	899.80	11.814	540.00	14.4852	1807.93	1271.83	12.911

250.00 PSIA ISOBAR

TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)
36.00	.2191	-104.22	-114.35	1.805
38.00	.2226	-99.82	-110.11	1.924
40.00	.2264	-95.14	-105.61	2.044
42.00	.2306	-90.16	-100.83	2.165
44.00	.2353	-84.85	-95.73	2.289
46.00	.2406	-79.15	-90.29	2.415
48.00	.2467	-73.03	-84.44	2.546
50.00	.2537	-66.40	-78.13	2.681
52.00	.2620	-59.14	-71.26	2.823
54.00	.2721	-51.13	-63.71	2.975
56.00	.2849	-42.05	-55.23	3.140
58.00	.3026	-31.24	-45.24	3.329
60.00	.3272	-18.47	-33.61	3.547
62.00	.3789	2.15	-15.38	3.886
64.00	.6083	52.83	24.69	4.690
66.00	.7695	76.29	40.69	5.051
68.00	.8803	90.77	50.05	5.267
70.00	.9730	102.49	57.48	5.437
72.00	1.0558	112.62	63.77	5.580
74.00	1.1322	121.77	69.39	5.705
76.00	1.2040	130.27	74.57	5.819
78.00	1.2725	138.29	79.43	5.923
80.00	1.3383	145.96	84.05	6.020
82.00	1.4019	153.35	88.49	6.111
84.00	1.4637	160.51	92.79	6.197
86.00	1.5240	167.48	96.98	6.279
88.00	1.5829	174.30	101.08	6.358
90.00	1.6407	180.99	105.09	6.433
92.00	1.6974	187.57	109.04	6.505
94.00	1.7533	194.05	112.93	6.575
96.00	1.8083	200.44	116.78	6.642
98.00	1.8626	206.76	120.59	6.707
100.00	1.9162	213.01	124.36	6.771
102.00	1.9693	219.21	128.11	6.832
104.00	2.0218	225.36	131.83	6.892
106.00	2.0737	231.47	135.53	6.950
108.00	2.1252	237.54	139.22	7.007
110.00	2.1763	243.58	142.90	7.062
112.00	2.2270	249.60	146.57	7.116
114.00	2.2773	255.59	150.23	7.169
116.00	2.3272	261.56	153.90	7.221
118.00	2.3768	267.52	157.56	7.272
120.00	2.4262	273.47	161.23	7.322
122.00	2.4752	279.41	164.90	7.371
124.00	2.5240	285.35	168.58	7.419
126.00	2.5725	291.29	172.28	7.467
128.00	2.6208	297.23	175.98	7.514
130.00	2.6689	303.17	179.70	7.560
132.00	2.7167	309.13	183.44	7.605
134.00	2.7644	315.09	187.20	7.650
136.00	2.8119	321.07	190.99	7.694
138.00	2.8592	327.07	194.79	7.738
140.00	2.9063	333.08	198.62	7.781
142.00	2.9533	339.11	202.48	7.824
144.00	3.0001	345.16	206.37	7.867
146.00	3.0468	351.24	210.29	7.908
148.00	3.0934	357.35	214.24	7.950
150.00	3.1398	363.48	218.22	7.991
152.00	3.1861	369.64	222.24	8.032
154.00	3.2323	375.83	226.29	8.072
156.00	3.2784	382.05	230.38	8.113
158.00	3.3243	388.30	234.51	8.152
160.00	3.3702	394.59	238.68	8.192
162.00	3.4159	400.92	242.89	8.231
164.00	3.4616	407.28	247.13	8.270
166.00	3.5072	413.68	251.42	8.309
168.00	3.5527	420.11	255.75	8.348
170.00	3.5981	426.58	260.12	8.386
172.00	3.6435	433.09	264.53	8.424
174.00	3.6887	439.63	268.98	8.462
176.00	3.7339	446.22	273.48	8.499
178.00	3.7790	452.84	278.01	8.537
180.00	3.8241	459.49	282.58	8.574
182.00	3.8690	466.18	287.18	8.611
184.00	3.9139	472.89	291.82	8.648
186.00	3.9586	479.64	296.50	8.684
188.00	4.0033	486.43	301.22	8.720
190.00	4.0479	493.25	305.98	8.756
192.00	4.0924	500.12	310.79	8.792
194.00	4.1369	507.02	315.63	8.828
196.00	4.1813	513.96	320.52	8.864
198.00	4.2257	520.93	325.44	8.899
200.00	4.2700	527.95	330.40	8.934
202.00	4.3143	535.00	335.40	8.969
204.00	4.3585	542.08	340.44	9.004
206.00	4.4027	549.20	345.52	9.039
208.00	4.4469	556.36	350.63	9.074
210.00	4.4910	563.55	355.78	9.108
212.00	4.5351	570.77	360.96	9.142
214.00	4.5791	578.02	366.18	9.176
216.00	4.6231	585.31	371.43	9.210
218.00	4.6671	592.62	376.71	9.244
220.00	4.7111	599.97	382.01	9.277
222.00	4.7551	607.34	387.35	9.311
224.00	4.7990	614.74	392.72	9.344
226.00	4.8429	622.17	398.12	9.377
228.00	4.8868	629.63	403.55	9.410
230.00	4.9307	637.11	409.00	9.443
232.00	4.9746	644.62	414.48	9.475
234.00	5.0184	652.16	419.99	9.507
236.00	5.0623	659.72	425.52	9.540
238.00	5.1061	667.30	431.07	9.572
240.00	5.1499	674.90	436.65	9.603
242.00	5.1937	682.53	442.25	9.635
244.00	5.2374	690.18	447.88	9.667
246.00	5.2812	697.85	453.52	9.698
248.00	5.3249	705.53	459.19	9.729
250.00	5.3687	713.24	464.87	9.760
252.00	5.4124	720.97	470.57	9.791
254.00	5.4561	728.71	476.29	9.821
256.00	5.4998	736.47	482.03	9.852
258.00	5.5434	744.24	487.78	9.882
260.00	5.5871	752.03	493.55	9.912

TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)	TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)
262.00	5.6307	759.83	499.34	9.942	402.00	8.6553	1304.96	904.54	11.611
264.00	5.6743	767.65	505.13	9.972	404.00	8.6983	1312.51	910.10	11.630
266.00	5.7179	775.47	510.94	10.001	406.00	8.7413	1320.04	915.64	11.648
268.00	5.7615	783.31	516.77	10.031	408.00	8.7842	1327.57	921.18	11.667
270.00	5.8050	791.16	522.60	10.060	410.00	8.8272	1335.08	926.71	11.685
272.00	5.8486	799.00	528.42	10.089	412.00	8.8701	1342.59	932.23	11.704
274.00	5.8921	806.84	534.25	10.117	414.00	8.9131	1350.09	937.74	11.722
276.00	5.9356	814.69	540.09	10.146	416.00	8.9560	1357.58	943.25	11.740
278.00	5.9791	822.54	545.93	10.174	418.00	8.9990	1365.07	948.74	11.758
280.00	6.0226	830.41	551.78	10.202	420.00	9.0419	1372.54	954.23	11.776
282.00	6.0660	838.27	557.64	10.230	422.00	9.0848	1380.01	959.71	11.793
284.00	6.1095	846.15	563.50	10.258	424.00	9.1278	1387.46	965.18	11.811
286.00	6.1529	854.03	569.37	10.286	426.00	9.1707	1394.91	970.64	11.828
288.00	6.1963	861.91	575.24	10.313	428.00	9.2136	1402.35	976.10	11.846
290.00	6.2397	869.79	581.12	10.341	430.00	9.2565	1409.78	981.54	11.863
292.00	6.2831	877.68	587.00	10.368	432.00	9.2994	1417.20	986.98	11.880
294.00	6.3265	885.57	592.89	10.395	434.00	9.3423	1424.61	992.41	11.898
296.00	6.3698	893.46	598.77	10.421	436.00	9.3852	1432.02	997.83	11.915
298.00	6.4131	901.35	604.66	10.448	438.00	9.4281	1439.41	1003.24	11.931
300.00	6.4565	909.25	610.55	10.474	440.00	9.4710	1446.80	1008.64	11.948
302.00	6.4998	917.14	616.44	10.501	442.00	9.5138	1454.18	1014.04	11.965
304.00	6.5431	925.03	622.33	10.527	444.00	9.5567	1461.55	1019.42	11.982
306.00	6.5863	932.93	628.22	10.553	446.00	9.5995	1468.91	1024.80	11.998
308.00	6.6296	940.82	634.11	10.578	448.00	9.6423	1476.26	1030.17	12.015
310.00	6.6729	948.71	640.00	10.604	450.00	9.6852	1483.60	1035.54	12.031
312.00	6.7161	956.60	645.89	10.629	452.00	9.7280	1490.96	1040.91	12.047
314.00	6.7593	964.48	651.77	10.654	454.00	9.7708	1498.30	1046.27	12.064
316.00	6.8026	972.37	657.66	10.679	456.00	9.8136	1505.64	1051.63	12.080
318.00	6.8458	980.25	663.54	10.704	458.00	9.8564	1512.97	1056.98	12.096
320.00	6.8890	988.12	669.42	10.729	460.00	9.8992	1520.29	1062.32	12.112
322.00	6.9322	996.00	675.29	10.753	462.00	9.9420	1527.60	1067.66	12.128
324.00	6.9754	1003.87	681.16	10.778	464.00	9.9847	1534.91	1072.98	12.143
326.00	7.0186	1011.73	687.03	10.802	466.00	10.0275	1542.21	1078.30	12.159
328.00	7.0618	1019.59	692.89	10.826	468.00	10.0703	1549.50	1083.62	12.175
330.00	7.1050	1027.44	698.75	10.850	470.00	10.1130	1556.78	1088.92	12.190
332.00	7.1481	1035.29	704.60	10.874	472.00	10.1558	1564.06	1094.22	12.206
334.00	7.1913	1043.14	710.44	10.897	474.00	10.1985	1571.33	1099.52	12.221
336.00	7.2345	1050.97	716.28	10.921	476.00	10.2413	1578.60	1104.80	12.236
338.00	7.2776	1058.80	722.12	10.944	478.00	10.2840	1585.85	1110.08	12.251
340.00	7.3208	1066.63	727.95	10.967	480.00	10.3267	1593.10	1115.36	12.267
342.00	7.3639	1074.44	733.77	10.990	482.00	10.3695	1600.35	1120.62	12.282
344.00	7.4070	1082.25	739.58	11.013	484.00	10.4122	1607.59	1125.88	12.297
346.00	7.4502	1090.06	745.39	11.035	486.00	10.4549	1614.82	1131.14	12.312
348.00	7.4933	1097.85	751.19	11.058	488.00	10.4977	1622.05	1136.39	12.326
350.00	7.5364	1105.64	756.98	11.080	490.00	10.5404	1629.27	1141.63	12.341
352.00	7.5796	1113.42	762.77	11.102	492.00	10.5832	1636.48	1146.87	12.356
354.00	7.6227	1121.19	768.54	11.124	494.00	10.6259	1643.70	1152.11	12.371
356.00	7.6658	1128.96	774.31	11.146	496.00	10.6686	1650.90	1157.34	12.385
358.00	7.7089	1136.71	780.07	11.168	498.00	10.7114	1658.10	1162.56	12.400
360.00	7.7520	1144.46	785.82	11.189	500.00	10.7542	1665.30	1167.78	12.414
362.00	7.7951	1152.19	791.57	11.211	502.00	10.7969	1672.49	1172.99	12.428
364.00	7.8382	1159.92	797.30	11.232	504.00	10.8397	1679.68	1178.20	12.443
366.00	7.8812	1167.63	803.02	11.253	506.00	10.8825	1686.87	1183.41	12.457
368.00	7.9243	1175.34	808.74	11.274	508.00	10.9253	1694.05	1188.61	12.471
370.00	7.9673	1183.04	814.44	11.295	510.00	10.9681	1701.22	1193.80	12.485
372.00	8.0103	1190.73	820.14	11.316	512.00	11.0109	1708.40	1198.99	12.499
374.00	8.0534	1198.41	825.83	11.336	514.00	11.0538	1715.57	1204.18	12.513
376.00	8.0964	1206.08	831.51	11.357	516.00	11.0966	1722.73	1209.37	12.527
378.00	8.1394	1213.74	837.18	11.377	518.00	11.1395	1729.89	1214.55	12.541
380.00	8.1824	1221.39	842.85	11.397	520.00	11.1823	1737.05	1219.72	12.555
382.00	8.2254	1229.03	848.50	11.417	522.00	11.2252	1744.21	1224.90	12.568
384.00	8.2684	1236.67	854.14	11.437	524.00	11.2681	1751.36	1230.06	12.582
386.00	8.3115	1244.29	859.78	11.457	526.00	11.3110	1758.51	1235.23	12.596
388.00	8.3545	1251.91	865.41	11.477	528.00	11.3539	1765.66	1240.39	12.609
390.00	8.3974	1259.52	871.02	11.496	530.00	11.3968	1772.80	1245.55	12.623
392.00	8.4404	1267.11	876.63	11.516	532.00	11.4397	1779.94	1250.70	12.636
394.00	8.4834	1274.70	882.23	11.535	534.00	11.4826	1787.08	1255.86	12.650
396.00	8.5264	1282.28	887.82	11.554	536.00	11.5255	1794.21	1261.00	12.663
398.00	8.5694	1289.85	893.40	11.573	538.00	11.5684	1801.34	1266.15	12.676
400.00	8.6124	1297.41	898.98	11.592	540.00	11.6114	1808.47	1271.29	12.689

300.00 PSIA ISO8AR

TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)
36.00	.2180	-102.73	-114.84	1.790
38.00	.2213	-98.39	-110.67	1.908
40.00	.2249	-93.78	-106.26	2.026
42.00	.2290	-88.88	-101.59	2.145
44.00	.2334	-83.67	-96.62	2.267
46.00	.2384	-78.10	-91.34	2.390
48.00	.2440	-72.14	-85.69	2.517
50.00	.2504	-65.73	-79.63	2.648
52.00	.2579	-58.79	-73.10	2.784
54.00	.2666	-51.23	-66.03	2.927
56.00	.2773	-42.88	-58.28	3.078
58.00	.2910	-33.37	-49.52	3.246
60.00	.3091	-22.70	-39.86	3.428
62.00	.3352	-9.13	-27.73	3.651
64.00	.3814	9.59	-11.58	3.949
66.00	.4830	38.43	11.62	4.392
68.00	.6089	64.37	30.56	4.779
70.00	.7080	81.71	42.41	5.030
72.00	.7909	95.05	51.15	5.218
74.00	.8644	106.33	58.35	5.373
76.00	.9319	116.38	64.64	5.507
78.00	.9951	125.59	70.35	5.627
80.00	1.0550	134.22	75.65	5.736
82.00	1.1124	142.40	80.65	5.837
84.00	1.1678	150.24	85.41	5.931
86.00	1.2214	157.81	90.00	6.020
88.00	1.2736	165.15	94.44	6.105
90.00	1.3245	172.30	98.77	6.185
92.00	1.3744	179.29	102.99	6.262
94.00	1.4233	186.15	107.14	6.336
96.00	1.4713	192.89	111.21	6.407
98.00	1.5186	199.53	115.23	6.475
100.00	1.5651	206.08	119.19	6.541
102.00	1.6111	212.56	123.12	6.605
104.00	1.6564	218.96	127.01	6.668
106.00	1.7013	225.31	130.86	6.728
108.00	1.7457	231.61	134.70	6.787
110.00	1.7896	237.86	138.51	6.844
112.00	1.8331	244.07	142.31	6.900
114.00	1.8763	250.25	146.09	6.955
116.00	1.9191	256.41	149.87	7.008
118.00	1.9615	262.53	153.64	7.061
120.00	2.0037	268.65	157.41	7.112
122.00	2.0456	274.74	161.18	7.162
124.00	2.0872	280.83	164.95	7.212
126.00	2.1286	286.90	168.74	7.261
128.00	2.1697	292.98	172.53	7.308
130.00	2.2106	299.05	176.33	7.356
132.00	2.2513	305.13	180.15	7.402
134.00	2.2918	311.21	183.98	7.448
136.00	2.3321	317.30	187.83	7.493
138.00	2.3723	323.41	191.71	7.537
140.00	2.4123	329.52	195.60	7.581
142.00	2.4521	335.65	199.52	7.625
144.00	2.4918	341.80	203.47	7.668
146.00	2.5313	347.98	207.45	7.710
148.00	2.5707	354.17	211.45	7.752
150.00	2.6100	360.39	215.49	7.794
152.00	2.6491	366.63	219.56	7.836
154.00	2.6882	372.90	223.67	7.877
156.00	2.7271	379.20	227.81	7.917
158.00	2.7659	385.53	231.98	7.958
160.00	2.8046	391.89	236.19	7.998
162.00	2.8432	398.29	240.45	8.037
164.00	2.8817	404.72	244.74	8.077
166.00	2.9202	411.18	249.07	8.116
168.00	2.9585	417.68	253.43	8.155
170.00	2.9968	424.21	257.84	8.193
172.00	3.0350	430.78	262.29	8.232
174.00	3.0731	437.39	266.78	8.270
176.00	3.1112	444.03	271.31	8.308
178.00	3.1492	450.70	275.87	8.346
180.00	3.1871	457.41	280.48	8.383
182.00	3.2249	464.14	285.11	8.420
184.00	3.2626	470.90	289.78	8.457
186.00	3.3002	477.70	294.48	8.494
188.00	3.3378	484.53	299.23	8.531
190.00	3.3754	491.40	304.02	8.567
192.00	3.4128	498.31	308.84	8.603
194.00	3.4503	505.25	313.71	8.639
196.00	3.4876	512.23	318.61	8.675
198.00	3.5250	519.25	323.56	8.710
200.00	3.5622	526.30	328.54	8.746
202.00	3.5995	533.39	333.56	8.781
204.00	3.6366	540.51	338.62	8.816
206.00	3.6738	547.67	343.71	8.851
208.00	3.7109	554.86	348.84	8.886
210.00	3.7480	562.08	354.01	8.920
212.00	3.7850	569.34	359.21	8.955
214.00	3.8220	576.62	364.44	8.989
216.00	3.8590	583.94	369.71	9.023
218.00	3.8959	591.29	375.00	9.057
220.00	3.9329	598.66	380.33	9.091
222.00	3.9698	606.07	385.68	9.124
224.00	4.0066	613.50	391.07	9.157
226.00	4.0435	620.96	396.48	9.191
228.00	4.0803	628.44	401.92	9.224
230.00	4.1171	635.95	407.39	9.256
232.00	4.1538	643.49	412.89	9.289
234.00	4.1906	651.05	418.41	9.321
236.00	4.2273	658.64	423.95	9.354
238.00	4.2640	666.24	429.52	9.386
240.00	4.3007	673.87	435.12	9.418
242.00	4.3374	681.53	440.73	9.450
244.00	4.3741	689.20	446.37	9.481
246.00	4.4107	696.89	452.03	9.512
248.00	4.4473	704.60	457.70	9.544
250.00	4.4839	712.33	463.40	9.575
252.00	4.5205	720.08	469.12	9.606
254.00	4.5571	727.84	474.85	9.636
256.00	4.5936	735.62	480.60	9.667
258.00	4.6302	743.41	486.37	9.697
260.00	4.6667	751.22	492.15	9.727

TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)	TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)
262.00	4.7032	759.04	497.94	9.757	402.00	7.2303	1305.10	903.70	11.429
264.00	4.7397	766.88	503.75	9.787	404.00	7.2662	1312.65	909.26	11.448
266.00	4.7761	774.73	509.57	9.817	406.00	7.3020	1320.19	914.81	11.467
268.00	4.8126	782.58	515.41	9.846	408.00	7.3379	1327.72	920.35	11.485
270.00	4.8490	790.45	521.25	9.875	410.00	7.3738	1335.25	925.89	11.504
272.00	4.8854	798.30	527.08	9.904	412.00	7.4096	1342.76	931.41	11.522
274.00	4.9218	806.16	532.92	9.933	414.00	7.4454	1350.27	936.93	11.540
276.00	4.9582	814.03	538.77	9.962	416.00	7.4813	1357.77	942.44	11.558
278.00	4.9946	821.90	544.62	9.990	418.00	7.5171	1365.26	947.94	11.576
280.00	5.0310	829.78	550.49	10.018	420.00	7.5529	1372.75	953.44	11.594
282.00	5.0673	837.67	556.35	10.046	422.00	7.5888	1380.22	958.92	11.612
284.00	5.1036	845.56	562.23	10.074	424.00	7.6246	1387.68	964.40	11.629
286.00	5.1400	853.45	568.10	10.102	426.00	7.6604	1395.14	969.86	11.647
288.00	5.1762	861.35	573.99	10.130	428.00	7.6962	1402.59	975.32	11.664
290.00	5.2125	869.25	579.87	10.157	430.00	7.7320	1410.02	980.77	11.682
292.00	5.2488	877.15	585.76	10.184	432.00	7.7678	1417.45	986.22	11.699
294.00	5.2851	885.06	591.65	10.211	434.00	7.8036	1424.87	991.65	11.716
296.00	5.3213	892.96	597.55	10.238	436.00	7.8394	1432.28	997.07	11.733
298.00	5.3575	900.87	603.44	10.264	438.00	7.8752	1439.69	1002.49	11.750
300.00	5.3938	908.78	609.34	10.291	440.00	7.9109	1447.08	1007.90	11.767
302.00	5.4300	916.69	615.24	10.317	442.00	7.9467	1454.47	1013.30	11.784
304.00	5.4662	924.60	621.14	10.343	444.00	7.9824	1461.84	1018.69	11.800
306.00	5.5023	932.51	627.04	10.369	446.00	8.0182	1469.21	1024.07	11.817
308.00	5.5385	940.41	632.94	10.395	448.00	8.0539	1476.57	1029.45	11.833
310.00	5.5747	948.32	638.83	10.421	450.00	8.0897	1483.92	1034.82	11.850
312.00	5.6108	956.22	644.73	10.446	452.00	8.1254	1491.28	1040.19	11.866
314.00	5.6470	964.12	650.62	10.471	454.00	8.1611	1498.64	1045.56	11.882
316.00	5.6831	972.02	656.51	10.496	456.00	8.1968	1505.98	1050.93	11.898
318.00	5.7192	979.91	662.40	10.521	458.00	8.2325	1513.32	1056.28	11.914
320.00	5.7553	987.80	668.29	10.546	460.00	8.2682	1520.64	1061.63	11.930
322.00	5.7914	995.69	674.17	10.570	462.00	8.3039	1527.97	1066.97	11.946
324.00	5.8275	1003.57	680.05	10.595	464.00	8.3396	1535.28	1072.30	11.962
326.00	5.8636	1011.45	685.92	10.619	466.00	8.3753	1542.59	1077.62	11.978
328.00	5.8997	1019.32	691.79	10.643	468.00	8.4110	1549.88	1082.94	11.993
330.00	5.9358	1027.19	697.66	10.667	470.00	8.4467	1557.17	1088.25	12.009
332.00	5.9718	1035.05	703.52	10.691	472.00	8.4823	1564.46	1093.55	12.024
334.00	6.0079	1042.91	709.37	10.714	474.00	8.5180	1571.74	1098.85	12.040
336.00	6.0440	1050.76	715.22	10.738	476.00	8.5537	1579.01	1104.14	12.055
338.00	6.0800	1058.60	721.06	10.761	478.00	8.5893	1586.27	1109.43	12.070
340.00	6.1160	1066.44	726.90	10.784	480.00	8.6250	1593.53	1114.70	12.086
342.00	6.1521	1074.27	732.73	10.807	482.00	8.6607	1600.78	1119.97	12.101
344.00	6.1881	1082.09	738.55	10.830	484.00	8.6963	1608.02	1125.24	12.116
346.00	6.2241	1089.90	744.36	10.853	486.00	8.7320	1615.26	1130.50	12.131
348.00	6.2602	1097.71	750.17	10.875	488.00	8.7676	1622.50	1135.75	12.145
350.00	6.2962	1105.51	755.97	10.898	490.00	8.8033	1629.72	1141.00	12.160
352.00	6.3322	1113.30	761.77	10.920	492.00	8.8390	1636.94	1146.24	12.175
354.00	6.3682	1121.09	767.55	10.942	494.00	8.8746	1644.16	1151.48	12.189
356.00	6.4042	1128.86	773.33	10.964	496.00	8.9103	1651.37	1156.71	12.204
358.00	6.4402	1136.63	779.10	10.985	498.00	8.9460	1658.58	1161.94	12.219
360.00	6.4762	1144.39	784.86	11.007	500.00	8.9816	1665.78	1167.16	12.233
362.00	6.5121	1152.13	790.60	11.028	502.00	9.0173	1672.98	1172.38	12.247
364.00	6.5481	1159.87	796.34	11.050	504.00	9.0530	1680.17	1177.59	12.262
366.00	6.5840	1167.59	802.07	11.071	506.00	9.0887	1687.36	1182.79	12.276
368.00	6.6200	1175.31	807.80	11.092	508.00	9.1244	1694.55	1188.00	12.290
370.00	6.6559	1183.02	813.51	11.113	510.00	9.1601	1701.73	1193.20	12.304
372.00	6.6919	1190.72	819.21	11.134	512.00	9.1958	1708.90	1198.39	12.318
374.00	6.7278	1198.41	824.91	11.154	514.00	9.2315	1716.08	1203.58	12.332
376.00	6.7637	1206.09	830.60	11.175	516.00	9.2672	1723.25	1208.77	12.346
378.00	6.7996	1213.76	836.27	11.195	518.00	9.3030	1730.41	1213.95	12.360
380.00	6.8355	1221.42	841.94	11.215	520.00	9.3387	1737.58	1219.13	12.374
382.00	6.8715	1229.08	847.60	11.235	522.00	9.3745	1744.73	1224.30	12.388
384.00	6.9074	1236.72	853.25	11.255	524.00	9.4102	1751.89	1229.47	12.401
386.00	6.9433	1244.35	858.89	11.275	526.00	9.4460	1759.04	1234.64	12.415
388.00	6.9792	1251.98	864.53	11.295	528.00	9.4817	1766.19	1239.81	12.428
390.00	7.0151	1259.60	870.15	11.314	530.00	9.5175	1773.34	1244.97	12.442
392.00	7.0509	1267.20	875.76	11.334	532.00	9.5533	1780.48	1250.12	12.455
394.00	7.0868	1274.80	881.37	11.353	534.00	9.5890	1787.62	1255.28	12.469
396.00	7.1227	1282.39	886.96	11.372	536.00	9.6248	1794.76	1260.42	12.482
398.00	7.1586	1289.97	892.55	11.392	538.00	9.6606	1801.89	1265.57	12.495
400.00	7.1945	1297.54	898.13	11.411	540.00	9.6964	1809.02	1270.71	12.509

350.00 PSIA ISOBAR

TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)
36.00	.2169	-101.24	-115.29	1.776
38.00	.2201	-96.94	-111.20	1.892
40.00	.2236	-92.39	-106.88	2.009
42.00	.2274	-87.57	-102.30	2.126
44.00	.2317	-82.45	-97.45	2.245
46.00	.2364	-76.99	-92.30	2.367
48.00	.2416	-71.18	-86.83	2.490
50.00	.2475	-64.95	-80.98	2.617
52.00	.2543	-58.25	-74.72	2.749
54.00	.2621	-51.04	-68.01	2.885
56.00	.2714	-43.19	-60.77	3.028
58.00	.2827	-34.46	-52.77	3.181
60.00	.2975	-24.92	-44.19	3.344
62.00	.3159	-13.65	-34.11	3.530
64.00	.3418	-.19	-22.33	3.744
66.00	.3821	16.71	-8.04	4.003
68.00	.4468	37.78	8.84	4.317
70.00	.5288	58.92	24.67	4.624
72.00	.6073	76.04	36.71	4.865
74.00	.6775	89.95	46.07	5.056
76.00	.7413	101.86	53.85	5.215
78.00	.8003	112.47	60.64	5.352
80.00	.8558	122.19	66.76	5.476
82.00	.9086	131.27	72.42	5.588
84.00	.9592	139.85	77.73	5.691
86.00	1.0079	148.06	82.77	5.788
88.00	1.0551	155.95	87.61	5.878
90.00	1.1010	163.59	92.28	5.964
92.00	1.1458	171.02	96.81	6.046
94.00	1.1896	178.28	101.23	6.124
96.00	1.2326	185.38	105.55	6.199
98.00	1.2747	192.35	109.79	6.270
100.00	1.3161	199.20	113.96	6.340
102.00	1.3569	205.96	118.07	6.407
104.00	1.3972	212.63	122.13	6.471
106.00	1.4369	219.22	126.15	6.534
108.00	1.4761	225.74	130.14	6.595
110.00	1.5149	232.21	134.09	6.654
112.00	1.5533	238.62	138.02	6.712
114.00	1.5912	244.99	141.93	6.769
116.00	1.6289	251.32	145.82	6.824
118.00	1.6662	257.62	149.71	6.878
120.00	1.7032	263.90	153.58	6.930
122.00	1.7400	270.14	157.45	6.982
124.00	1.7764	276.38	161.32	7.033
126.00	1.8126	282.59	165.19	7.082
128.00	1.8486	288.80	169.07	7.131
130.00	1.8844	295.00	172.96	7.179
132.00	1.9199	301.20	176.85	7.227
134.00	1.9553	307.40	180.76	7.273
136.00	1.9905	313.61	184.69	7.319
138.00	2.0255	319.82	188.63	7.364
140.00	2.0603	326.03	192.59	7.409
142.00	2.0950	332.27	196.58	7.453
144.00	2.1296	338.51	200.58	7.497
146.00	2.1640	344.77	204.62	7.540
148.00	2.1982	351.06	208.68	7.583
150.00	2.2324	357.36	212.77	7.625
152.00	2.2664	363.69	216.90	7.667
154.00	2.3003	370.04	221.05	7.709
156.00	2.3341	376.41	225.24	7.750
158.00	2.3678	382.82	229.46	7.791
160.00	2.4014	389.25	233.72	7.831
162.00	2.4349	395.72	238.02	7.871
164.00	2.4683	402.21	242.35	7.911
166.00	2.5016	408.74	246.72	7.951
168.00	2.5348	415.30	251.13	7.990
170.00	2.5680	421.90	255.58	8.029
172.00	2.6010	428.53	260.06	8.068
174.00	2.6341	435.19	264.59	8.106
176.00	2.6670	441.89	269.15	8.145
178.00	2.6999	448.62	273.75	8.183
180.00	2.7327	455.38	278.39	8.220
182.00	2.7654	462.16	283.05	8.258
184.00	2.7980	468.97	287.75	8.295
186.00	2.8305	475.81	292.48	8.332
188.00	2.8630	482.69	297.26	8.369
190.00	2.8955	489.61	302.07	8.405
192.00	2.9279	496.56	306.92	8.442
194.00	2.9603	503.54	311.81	8.478
196.00	2.9926	510.56	316.74	8.514
198.00	3.0248	517.62	321.71	8.550
200.00	3.0570	524.71	326.71	8.585
202.00	3.0892	531.83	331.75	8.621
204.00	3.1213	538.99	336.83	8.656
206.00	3.1534	546.18	341.94	8.691
208.00	3.1855	553.41	347.09	8.726
210.00	3.2175	560.67	352.28	8.761
212.00	3.2494	567.96	357.50	8.795
214.00	3.2814	575.28	362.75	8.830
216.00	3.3133	582.63	368.03	8.864
218.00	3.3452	590.01	373.34	8.898
220.00	3.3770	597.41	378.69	8.932
222.00	3.4088	604.84	384.06	8.965
224.00	3.4406	612.30	389.46	8.999
226.00	3.4724	619.79	394.89	9.032
228.00	3.5041	627.30	400.35	9.065
230.00	3.5359	634.84	405.83	9.098
232.00	3.5676	642.41	411.34	9.131
234.00	3.5992	649.99	416.88	9.163
236.00	3.6309	657.60	422.44	9.196
238.00	3.6625	665.23	428.02	9.228
240.00	3.6941	672.89	433.63	9.260
242.00	3.7257	680.56	439.26	9.292
244.00	3.7573	688.26	444.91	9.324
246.00	3.7888	695.97	450.58	9.355
248.00	3.8204	703.71	456.27	9.386
250.00	3.8519	711.46	461.98	9.417
252.00	3.8834	719.23	467.71	9.448
254.00	3.9148	727.01	473.45	9.479
256.00	3.9463	734.81	479.21	9.510
258.00	3.9777	742.62	484.99	9.540
260.00	4.0092	750.45	490.78	9.570

TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)	TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)
262.00	4.0406	758.29	496.59	9.600	402.00	6.2122	1305.26	902.90	11.275
264.00	4.0720	766.15	502.41	9.630	404.00	6.2430	1312.82	908.47	11.294
266.00	4.1033	774.01	508.24	9.660	406.00	6.2738	1320.37	914.02	11.313
268.00	4.1347	781.89	514.09	9.689	408.00	6.3046	1327.91	919.57	11.331
270.00	4.1661	789.77	519.95	9.719	410.00	6.3353	1335.44	925.11	11.350
272.00	4.1974	797.64	525.79	9.748	412.00	6.3661	1342.96	930.64	11.368
274.00	4.2287	805.52	531.64	9.777	414.00	6.3969	1350.48	936.16	11.386
276.00	4.2600	813.41	537.49	9.805	416.00	6.4276	1357.99	941.68	11.404
278.00	4.2913	821.30	543.36	9.834	418.00	6.4584	1365.49	947.19	11.422
280.00	4.3226	829.19	549.23	9.862	420.00	6.4891	1372.98	952.69	11.440
282.00	4.3538	837.09	555.10	9.890	422.00	6.5199	1380.46	958.18	11.458
284.00	4.3851	845.00	560.99	9.918	424.00	6.5506	1387.93	963.66	11.476
286.00	4.4163	852.91	566.87	9.946	426.00	6.5814	1395.39	969.13	11.493
288.00	4.4475	860.82	572.77	9.974	428.00	6.6121	1402.85	974.59	11.511
290.00	4.4787	868.74	578.66	10.001	430.00	6.6428	1410.29	980.05	11.528
292.00	4.5099	876.66	584.56	10.028	432.00	6.6735	1417.73	985.50	11.545
294.00	4.5411	884.58	590.46	10.055	434.00	6.7043	1425.16	990.93	11.562
296.00	4.5723	892.50	596.36	10.082	436.00	6.7350	1432.58	996.36	11.580
298.00	4.6034	900.42	602.27	10.109	438.00	6.7657	1439.99	1001.79	11.596
300.00	4.6346	908.35	608.18	10.135	440.00	6.7964	1447.39	1007.20	11.613
302.00	4.6657	916.27	614.08	10.162	442.00	6.8271	1454.78	1012.60	11.630
304.00	4.6968	924.19	619.99	10.188	444.00	6.8578	1462.17	1018.00	11.647
306.00	4.7279	932.12	625.90	10.214	446.00	6.8884	1469.54	1023.39	11.663
308.00	4.7590	940.04	631.80	10.239	448.00	6.9191	1476.91	1028.77	11.680
310.00	4.7901	947.96	637.71	10.265	450.00	6.9498	1484.27	1034.14	11.696
312.00	4.8212	955.87	643.61	10.291	452.00	6.9804	1491.64	1039.52	11.713
314.00	4.8522	963.79	649.52	10.316	454.00	7.0111	1499.00	1044.90	11.729
316.00	4.8833	971.70	655.41	10.341	456.00	7.0417	1506.35	1050.26	11.745
318.00	4.9143	979.61	661.31	10.366	458.00	7.0724	1513.69	1055.62	11.761
320.00	4.9454	987.51	667.21	10.391	460.00	7.1030	1521.03	1060.97	11.777
322.00	4.9764	995.41	673.10	10.415	462.00	7.1337	1528.35	1066.32	11.793
324.00	5.0074	1003.31	678.98	10.440	464.00	7.1643	1535.68	1071.65	11.809
326.00	5.0384	1011.20	684.87	10.464	466.00	7.1949	1542.99	1076.98	11.824
328.00	5.0694	1019.08	690.74	10.488	468.00	7.2255	1550.29	1082.31	11.840
330.00	5.1004	1026.96	696.62	10.512	470.00	7.2562	1557.59	1087.62	11.856
332.00	5.1314	1034.84	702.48	10.536	472.00	7.2868	1564.88	1092.93	11.871
334.00	5.1624	1042.71	708.35	10.559	474.00	7.3174	1572.16	1098.23	11.887
336.00	5.1934	1050.57	714.20	10.583	476.00	7.3480	1579.44	1103.52	11.902
338.00	5.2244	1058.43	720.05	10.606	478.00	7.3786	1586.71	1108.81	11.917
340.00	5.2553	1066.28	725.90	10.629	480.00	7.4092	1593.97	1114.09	11.932
342.00	5.2863	1074.12	731.73	10.652	482.00	7.4398	1601.23	1119.37	11.947
344.00	5.3172	1081.95	737.56	10.675	484.00	7.4704	1608.48	1124.63	11.962
346.00	5.3482	1089.78	743.39	10.698	486.00	7.5010	1615.73	1129.90	11.977
348.00	5.3791	1097.60	749.20	10.720	488.00	7.5316	1622.96	1135.15	11.992
350.00	5.4100	1105.41	755.01	10.743	490.00	7.5622	1630.20	1140.40	12.007
352.00	5.4410	1113.21	760.81	10.765	492.00	7.5928	1637.42	1145.65	12.022
354.00	5.4719	1121.01	766.60	10.787	494.00	7.6234	1644.65	1150.89	12.036
356.00	5.5028	1128.80	772.39	10.809	496.00	7.6540	1651.86	1156.12	12.051
358.00	5.5337	1136.57	778.16	10.831	498.00	7.6846	1659.07	1161.35	12.065
360.00	5.5646	1144.34	783.93	10.853	500.00	7.7152	1666.28	1166.58	12.080
362.00	5.5955	1152.10	789.69	10.874	502.00	7.7459	1673.48	1171.80	12.094
364.00	5.6264	1159.84	795.43	10.895	504.00	7.7765	1680.68	1177.01	12.108
366.00	5.6573	1167.58	801.17	10.917	506.00	7.8071	1687.87	1182.22	12.123
368.00	5.6881	1175.31	806.90	10.938	508.00	7.8377	1695.06	1187.43	12.137
370.00	5.7190	1183.03	812.62	10.959	510.00	7.8683	1702.25	1192.63	12.151
372.00	5.7499	1190.74	818.33	10.979	512.00	7.8990	1709.43	1197.82	12.165
374.00	5.7807	1198.44	824.03	11.000	514.00	7.9296	1716.61	1203.02	12.179
376.00	5.8116	1206.13	829.72	11.020	516.00	7.9603	1723.78	1208.21	12.193
378.00	5.8424	1213.81	835.41	11.041	518.00	7.9909	1730.95	1213.39	12.207
380.00	5.8732	1221.48	841.08	11.061	520.00	8.0216	1738.12	1218.57	12.221
382.00	5.9041	1229.14	846.75	11.081	522.00	8.0522	1745.28	1223.75	12.234
384.00	5.9349	1236.80	852.40	11.101	524.00	8.0829	1752.44	1228.92	12.248
386.00	5.9657	1244.44	858.05	11.121	526.00	8.1135	1759.59	1234.09	12.262
388.00	5.9966	1252.08	863.69	11.141	528.00	8.1442	1766.75	1239.26	12.275
390.00	6.0274	1259.70	869.32	11.160	530.00	8.1749	1773.89	1244.42	12.289
392.00	6.0582	1267.32	874.94	11.180	532.00	8.2055	1781.04	1249.58	12.302
394.00	6.0890	1274.92	880.55	11.199	534.00	8.2362	1788.18	1254.73	12.316
396.00	6.1198	1282.52	886.15	11.218	536.00	8.2669	1795.32	1259.89	12.329
398.00	6.1506	1290.11	891.74	11.238	538.00	8.2976	1802.46	1265.04	12.342
400.00	6.1814	1297.69	897.33	11.257	540.00	8.3282	1809.59	1270.18	12.356

400.00 PSIA ISOBAR

TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)
36.00	.2159	-99.74	-115.72	1.762
38.00	.2190	-95.49	-111.70	1.877
40.00	.2223	-90.99	-107.45	1.992
42.00	.2260	-86.24	-102.96	2.108
44.00	.2300	-81.19	-98.22	2.225
46.00	.2345	-75.84	-93.19	2.344
48.00	.2394	-70.15	-87.87	2.465
50.00	.2449	-64.07	-82.20	2.589
52.00	.2511	-57.58	-76.17	2.717
54.00	.2582	-50.64	-69.75	2.848
56.00	.2664	-43.16	-62.89	2.984
58.00	.2762	-34.97	-55.41	3.128
60.00	.2888	-26.16	-47.54	3.278
62.00	.3033	-16.12	-38.57	3.444
64.00	.3220	-4.76	-28.59	3.625
66.00	.3471	8.38	-17.31	3.826
68.00	.3822	23.73	-4.57	4.055
70.00	.4304	41.05	9.19	4.306
72.00	.4886	58.35	22.18	4.550
74.00	.5486	73.88	33.27	4.762
76.00	.6061	87.41	42.55	4.943
78.00	.6603	99.38	50.50	5.098
80.00	.7114	110.20	57.54	5.235
82.00	.7599	120.18	63.93	5.359
84.00	.8064	129.52	69.83	5.471
86.00	.8510	138.37	75.38	5.575
88.00	.8942	146.83	80.64	5.673
90.00	.9361	154.97	85.68	5.764
92.00	.9769	162.84	90.53	5.851
94.00	1.0167	170.49	95.24	5.933
96.00	1.0556	177.96	99.82	6.011
98.00	1.0938	185.26	104.29	6.087
100.00	1.1313	192.42	108.68	6.159
102.00	1.1681	199.45	112.99	6.229
104.00	1.2044	206.38	117.23	6.296
106.00	1.2402	213.22	121.42	6.361
108.00	1.2755	219.97	125.56	6.424
110.00	1.3103	226.65	129.66	6.485
112.00	1.3447	233.26	133.72	6.545
114.00	1.3788	239.82	137.76	6.603
116.00	1.4125	246.33	141.77	6.660
118.00	1.4459	252.80	145.77	6.715
120.00	1.4790	259.23	149.75	6.769
122.00	1.5119	265.64	153.73	6.822
124.00	1.5444	272.01	157.69	6.874
126.00	1.5767	278.37	161.66	6.925
128.00	1.6088	284.71	165.62	6.975
130.00	1.6407	291.04	169.59	7.024
132.00	1.6724	297.36	173.57	7.072
134.00	1.7038	303.67	177.55	7.119
136.00	1.7351	309.98	181.55	7.166
138.00	1.7663	316.30	185.56	7.212
140.00	1.7972	322.62	189.59	7.258
142.00	1.8280	328.95	193.64	7.303
144.00	1.8587	335.29	197.71	7.347
146.00	1.8892	341.64	201.80	7.391
148.00	1.9196	348.01	205.92	7.434
150.00	1.9499	354.40	210.07	7.477
152.00	1.9800	360.81	214.24	7.519
154.00	2.0101	367.24	218.45	7.561
156.00	2.0400	373.69	222.69	7.603
158.00	2.0698	380.17	226.96	7.644
160.00	2.0996	386.68	231.26	7.685
162.00	2.1292	393.21	235.60	7.726
164.00	2.1588	399.77	239.98	7.766
166.00	2.1882	406.36	244.39	7.806
168.00	2.2176	412.99	248.84	7.846
170.00	2.2469	419.64	253.33	7.885
172.00	2.2761	426.33	257.85	7.924
174.00	2.3053	433.05	262.41	7.963
176.00	2.3344	439.80	267.01	8.002
178.00	2.3634	446.58	271.64	8.040
180.00	2.3924	453.40	276.31	8.078
182.00	2.4212	460.23	281.01	8.116
184.00	2.4500	467.09	285.74	8.153
186.00	2.4787	473.98	290.50	8.190
188.00	2.5074	480.90	295.30	8.227
190.00	2.5360	487.86	300.14	8.264
192.00	2.5646	494.85	305.02	8.301
194.00	2.5931	501.88	309.94	8.337
196.00	2.6216	508.94	314.89	8.374
198.00	2.6500	516.04	319.88	8.410
200.00	2.6784	523.17	324.91	8.445
202.00	2.7067	530.33	329.97	8.481
204.00	2.7350	537.52	335.07	8.516
206.00	2.7633	544.75	340.21	8.552
208.00	2.7915	552.01	345.38	8.587
210.00	2.8197	559.30	350.58	8.622
212.00	2.8478	566.62	355.82	8.656
214.00	2.8759	573.97	361.09	8.691
216.00	2.9040	581.36	366.40	8.725
218.00	2.9321	588.76	371.73	8.759
220.00	2.9601	596.20	377.08	8.793
222.00	2.9881	603.66	382.47	8.827
224.00	3.0161	611.14	387.89	8.861
226.00	3.0440	618.66	393.34	8.894
228.00	3.0719	626.20	398.81	8.927
230.00	3.0998	633.76	404.31	8.960
232.00	3.1277	641.35	409.83	8.993
234.00	3.1556	648.96	415.38	9.026
236.00	3.1834	656.60	420.96	9.058
238.00	3.2112	664.25	426.56	9.091
240.00	3.2390	671.93	432.18	9.123
242.00	3.2667	679.63	437.82	9.155
244.00	3.2945	687.34	443.48	9.186
246.00	3.3222	695.08	449.17	9.218
248.00	3.3499	702.84	454.87	9.249
250.00	3.3776	710.61	460.59	9.281
252.00	3.4053	718.40	466.33	9.312
254.00	3.4330	726.20	472.09	9.342
256.00	3.4606	734.02	477.86	9.373
258.00	3.4882	741.86	483.65	9.404
260.00	3.5158	749.70	489.46	9.434

TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)	TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)
262.00	3.5434	757.56	495.28	9.464	402.00	5.4483	1305.43	902.14	11.142
264.00	3.5710	765.44	501.11	9.494	404.00	5.4753	1313.00	907.71	11.161
266.00	3.5986	773.32	506.95	9.524	406.00	5.5023	1320.56	913.27	11.179
268.00	3.6261	781.22	512.81	9.553	408.00	5.5292	1328.11	918.83	11.198
270.00	3.6536	789.12	518.67	9.583	410.00	5.5562	1335.65	924.37	11.216
272.00	3.6812	797.01	524.53	9.612	412.00	5.5832	1343.18	929.91	11.235
274.00	3.7087	804.91	530.39	9.641	414.00	5.6101	1350.70	935.43	11.253
276.00	3.7362	812.81	536.25	9.669	416.00	5.6371	1358.22	940.96	11.271
278.00	3.7636	820.72	542.13	9.698	418.00	5.6640	1365.73	946.47	11.289
280.00	3.7911	828.63	548.01	9.726	420.00	5.6910	1373.22	951.97	11.307
282.00	3.8185	836.55	553.90	9.755	422.00	5.7179	1380.71	957.47	11.325
284.00	3.8460	844.47	559.79	9.783	424.00	5.7448	1388.19	962.95	11.342
286.00	3.8734	852.40	565.69	9.810	426.00	5.7718	1395.67	968.43	11.360
288.00	3.9008	860.33	571.59	9.838	428.00	5.7987	1403.13	973.90	11.377
290.00	3.9282	868.26	577.49	9.865	430.00	5.8256	1410.58	979.36	11.395
292.00	3.9556	876.19	583.40	9.893	432.00	5.8525	1418.03	984.81	11.412
294.00	3.9829	884.13	589.31	9.920	434.00	5.8794	1425.46	990.26	11.429
296.00	4.0103	892.07	595.22	9.947	436.00	5.9063	1432.89	995.69	11.446
298.00	4.0376	900.01	601.14	9.973	438.00	5.9332	1440.30	1001.12	11.463
300.00	4.0649	907.95	607.05	10.000	440.00	5.9601	1447.71	1006.54	11.480
302.00	4.0923	915.88	612.97	10.026	442.00	5.9870	1455.11	1011.95	11.497
304.00	4.1196	923.82	618.89	10.053	444.00	6.0139	1462.51	1017.35	11.514
306.00	4.1469	931.76	624.80	10.079	446.00	6.0408	1469.89	1022.74	11.530
308.00	4.1741	939.69	630.72	10.104	448.00	6.0677	1477.26	1028.13	11.547
310.00	4.2014	947.63	636.63	10.130	450.00	6.0945	1484.63	1033.51	11.563
312.00	4.2287	955.56	642.55	10.156	452.00	6.1214	1492.00	1038.89	11.579
314.00	4.2559	963.49	648.46	10.181	454.00	6.1482	1499.37	1044.27	11.596
316.00	4.2832	971.41	654.36	10.206	456.00	6.1751	1506.73	1049.64	11.612
318.00	4.3104	979.33	660.27	10.231	458.00	6.2019	1514.08	1055.00	11.628
320.00	4.3376	987.25	666.17	10.256	460.00	6.2288	1521.42	1060.36	11.644
322.00	4.3649	995.16	672.07	10.281	462.00	6.2556	1528.76	1065.71	11.660
324.00	4.3921	1003.07	677.97	10.305	464.00	6.2825	1536.08	1071.05	11.676
326.00	4.4193	1010.98	683.86	10.329	466.00	6.3093	1543.40	1076.38	11.691
328.00	4.4465	1018.87	689.74	10.353	468.00	6.3361	1550.71	1081.71	11.707
330.00	4.4737	1026.77	695.62	10.377	470.00	6.3629	1558.02	1087.03	11.723
332.00	4.5008	1034.65	701.50	10.401	472.00	6.3898	1565.31	1092.34	11.738
334.00	4.5280	1042.54	707.37	10.425	474.00	6.4166	1572.60	1097.64	11.754
336.00	4.5552	1050.41	713.23	10.448	476.00	6.4434	1579.89	1102.94	11.769
338.00	4.5823	1058.28	719.09	10.472	478.00	6.4702	1587.16	1108.23	11.784
340.00	4.6095	1066.14	724.94	10.495	480.00	6.4970	1594.43	1113.51	11.799
342.00	4.6366	1073.99	730.78	10.518	482.00	6.5238	1601.69	1118.79	11.814
344.00	4.6638	1081.84	736.62	10.541	484.00	6.5506	1608.95	1124.06	11.829
346.00	4.6909	1089.68	742.45	10.564	486.00	6.5774	1616.20	1129.33	11.844
348.00	4.7180	1097.51	748.27	10.586	488.00	6.6042	1623.44	1134.59	11.859
350.00	4.7452	1105.33	754.09	10.609	490.00	6.6310	1630.68	1139.84	11.874
352.00	4.7723	1113.14	759.90	10.631	492.00	6.6579	1637.91	1145.09	11.889
354.00	4.7994	1120.95	765.69	10.653	494.00	6.6847	1645.14	1150.33	11.903
356.00	4.8265	1128.75	771.49	10.675	496.00	6.7115	1652.36	1155.57	11.918
358.00	4.8536	1136.54	777.27	10.697	498.00	6.7383	1659.58	1160.80	11.933
360.00	4.8807	1144.32	783.04	10.718	500.00	6.7651	1666.79	1166.03	11.947
362.00	4.9078	1152.08	788.80	10.740	502.00	6.7919	1674.00	1171.25	11.961
364.00	4.9348	1159.84	794.56	10.761	504.00	6.8187	1681.20	1176.47	11.976
366.00	4.9619	1167.59	800.30	10.783	506.00	6.8455	1688.40	1181.68	11.990
368.00	4.9890	1175.32	806.04	10.804	508.00	6.8723	1695.59	1186.89	12.004
370.00	5.0160	1183.05	811.76	10.825	510.00	6.8992	1702.78	1192.09	12.018
372.00	5.0431	1190.77	817.48	10.845	512.00	6.9260	1709.96	1197.29	12.032
374.00	5.0701	1198.48	823.19	10.866	514.00	6.9528	1717.14	1202.49	12.046
376.00	5.0972	1206.18	828.88	10.887	516.00	6.9797	1724.32	1207.68	12.060
378.00	5.1242	1213.87	834.57	10.907	518.00	7.0065	1731.50	1212.87	12.074
380.00	5.1512	1221.56	840.26	10.927	520.00	7.0333	1738.67	1218.05	12.088
382.00	5.1783	1229.23	845.93	10.947	522.00	7.0602	1745.83	1223.23	12.102
384.00	5.2053	1236.89	851.59	10.967	524.00	7.0870	1752.99	1228.41	12.115
386.00	5.2323	1244.54	857.24	10.987	526.00	7.1138	1760.15	1233.58	12.129
388.00	5.2593	1252.19	862.89	11.007	528.00	7.1407	1767.31	1238.75	12.143
390.00	5.2863	1259.82	868.52	11.027	530.00	7.1675	1774.46	1243.91	12.156
392.00	5.3133	1267.45	874.15	11.046	532.00	7.1944	1781.61	1249.07	12.170
394.00	5.3403	1275.06	879.76	11.066	534.00	7.2212	1788.76	1254.23	12.183
396.00	5.3673	1282.67	885.37	11.085	536.00	7.2481	1795.90	1259.39	12.196
398.00	5.3943	1290.26	890.97	11.104	538.00	7.2749	1803.04	1264.54	12.210
400.00	5.4213	1297.85	896.56	11.123	540.00	7.3018	1810.17	1269.68	12.223

450.00 PSIA ISOBAR

TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)
36.00	.2149	-98.23	-116.12	1.749
38.00	.2179	-94.02	-112.16	1.862
40.00	.2211	-89.58	-107.99	1.976
42.00	.2246	-84.88	-103.59	2.091
44.00	.2285	-79.91	-98.94	2.206
46.00	.2327	-74.65	-94.02	2.323
48.00	.2373	-69.06	-88.83	2.442
50.00	.2425	-63.12	-83.32	2.563
52.00	.2483	-56.80	-77.48	2.687
54.00	.2548	-50.08	-71.29	2.814
56.00	.2622	-42.90	-64.73	2.945
58.00	.2708	-35.11	-57.66	3.082
60.00	.2820	-26.82	-50.30	3.223
62.00	.2940	-17.57	-42.05	3.376
64.00	.3088	-7.38	-33.10	3.538
66.00	.3274	3.95	-23.31	3.712
68.00	.3512	16.62	-12.63	3.901
70.00	.3822	30.68	-1.15	4.104
72.00	.4209	45.54	10.49	4.314
74.00	.4657	60.37	21.60	4.517
76.00	.5129	74.32	31.61	4.703
78.00	.5600	87.08	40.45	4.869
80.00	.6057	98.73	48.30	5.016
82.00	.6497	109.48	55.38	5.149
84.00	.6920	119.50	61.88	5.270
86.00	.7329	128.95	67.92	5.381
88.00	.7725	137.94	73.62	5.484
90.00	.8109	146.55	79.03	5.581
92.00	.8482	154.85	84.22	5.672
94.00	.8847	162.89	89.22	5.759
96.00	.9203	170.70	94.07	5.841
98.00	.9552	178.33	98.78	5.920
100.00	.9895	185.78	103.38	5.995
102.00	1.0231	193.09	107.89	6.067
104.00	1.0562	200.27	112.32	6.137
106.00	1.0888	207.35	116.68	6.204
108.00	1.1209	214.32	120.98	6.270
110.00	1.1526	221.21	125.23	6.333
112.00	1.1839	228.02	129.43	6.394
114.00	1.2149	234.76	133.60	6.454
116.00	1.2455	241.45	137.73	6.512
118.00	1.2758	248.09	141.85	6.569
120.00	1.3058	254.68	145.94	6.624
122.00	1.3355	261.23	150.01	6.678
124.00	1.3650	267.75	154.08	6.731
126.00	1.3943	274.24	158.13	6.783
128.00	1.4233	280.71	162.19	6.834
130.00	1.4521	287.16	166.24	6.884
132.00	1.4807	293.60	170.29	6.933
134.00	1.5091	300.02	174.35	6.982
136.00	1.5374	306.45	178.43	7.029
138.00	1.5654	312.87	182.51	7.076
140.00	1.5934	319.29	186.60	7.122
142.00	1.6211	325.71	190.72	7.168
144.00	1.6488	332.15	194.85	7.213
146.00	1.6762	338.59	199.00	7.257
148.00	1.7036	345.04	203.18	7.301
150.00	1.7309	351.51	207.38	7.344
152.00	1.7580	358.00	211.61	7.387
154.00	1.7850	364.51	215.87	7.430
156.00	1.8119	371.04	220.15	7.472
158.00	1.8387	377.59	224.47	7.514
160.00	1.8654	384.16	228.82	7.555
162.00	1.8921	390.76	233.20	7.596
164.00	1.9186	397.39	237.62	7.637
166.00	1.9450	404.05	242.08	7.677
168.00	1.9714	410.73	246.56	7.717
170.00	1.9977	417.45	251.09	7.757
172.00	2.0239	424.19	255.65	7.796
174.00	2.0501	430.97	260.25	7.836
176.00	2.0762	437.77	264.88	7.874
178.00	2.1022	444.61	269.55	7.913
180.00	2.1281	451.47	274.25	7.951
182.00	2.1540	458.36	278.98	7.989
184.00	2.1798	465.26	283.74	8.027
186.00	2.2055	472.20	288.53	8.065
188.00	2.2312	479.17	293.36	8.102
190.00	2.2569	486.17	298.23	8.139
192.00	2.2824	493.20	303.14	8.176
194.00	2.3080	500.27	308.08	8.212
196.00	2.3334	507.37	313.06	8.249
198.00	2.3589	514.50	318.07	8.285
200.00	2.3843	521.67	323.12	8.321
202.00	2.4096	528.87	328.21	8.357
204.00	2.4349	536.09	333.33	8.392
206.00	2.4602	543.35	338.48	8.428
208.00	2.4854	550.65	343.67	8.463
210.00	2.5106	557.97	348.90	8.498
212.00	2.5358	565.32	354.15	8.533
214.00	2.5609	572.70	359.44	8.568
216.00	2.5860	580.11	364.76	8.602
218.00	2.6111	587.54	370.11	8.636
220.00	2.6361	595.00	375.48	8.670
222.00	2.6612	602.49	380.89	8.704
224.00	2.6861	610.01	386.32	8.738
226.00	2.7111	617.55	391.78	8.771
228.00	2.7361	625.11	397.27	8.805
230.00	2.7610	632.70	402.78	8.838
232.00	2.7859	640.31	408.32	8.871
234.00	2.8107	647.95	413.89	8.904
236.00	2.8356	655.60	419.47	8.936
238.00	2.8604	663.28	425.09	8.969
240.00	2.8852	670.98	430.72	9.001
242.00	2.9100	678.70	436.38	9.033
244.00	2.9348	686.44	442.05	9.065
246.00	2.9595	694.20	447.75	9.096
248.00	2.9843	701.98	453.47	9.128
250.00	3.0090	709.77	459.20	9.159
252.00	3.0337	717.58	464.95	9.190
254.00	3.0584	725.41	470.72	9.221
256.00	3.0831	733.25	476.51	9.252
258.00	3.1077	741.10	482.31	9.283
260.00	3.1324	748.97	488.13	9.313

TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)	TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)
262.00	3.1570	756.85	493.96	9.343	402.00	4.8543	1305.60	901.37	11.024
264.00	3.1816	764.74	499.80	9.373	404.00	4.8783	1313.18	906.95	11.043
266.00	3.2062	772.65	505.66	9.403	406.00	4.9023	1320.75	912.52	11.061
268.00	3.2308	780.56	511.52	9.433	408.00	4.9263	1328.31	918.08	11.080
270.00	3.2553	788.49	517.40	9.462	410.00	4.9503	1335.86	923.63	11.098
272.00	3.2799	796.39	523.27	9.491	412.00	4.9743	1343.40	929.17	11.117
274.00	3.3044	804.31	529.14	9.520	414.00	4.9983	1350.93	934.70	11.135
276.00	3.3289	812.23	535.02	9.549	416.00	5.0223	1358.46	940.23	11.153
278.00	3.3534	820.15	540.90	9.578	418.00	5.0463	1365.97	945.75	11.171
280.00	3.3779	828.08	546.79	9.606	420.00	5.0703	1373.48	951.26	11.189
282.00	3.4024	836.02	552.69	9.634	422.00	5.0942	1380.98	956.76	11.207
284.00	3.4269	843.96	558.59	9.662	424.00	5.1182	1388.46	962.25	11.224
286.00	3.4513	851.90	564.50	9.690	426.00	5.1422	1395.94	967.73	11.242
288.00	3.4757	859.85	570.41	9.718	428.00	5.1661	1403.41	973.21	11.260
290.00	3.5002	867.80	576.33	9.745	430.00	5.1901	1410.87	978.67	11.277
292.00	3.5246	875.75	582.25	9.773	432.00	5.2141	1418.33	984.13	11.294
294.00	3.5490	883.70	588.17	9.800	434.00	5.2380	1425.77	989.58	11.311
296.00	3.5734	891.66	594.09	9.827	436.00	5.2619	1433.20	995.02	11.328
298.00	3.5977	899.61	600.01	9.854	438.00	5.2859	1440.63	1000.45	11.345
300.00	3.6221	907.56	605.94	9.880	440.00	5.3098	1448.04	1005.87	11.362
302.00	3.6464	915.52	611.86	9.907	442.00	5.3337	1455.45	1011.29	11.379
304.00	3.6708	923.47	617.79	9.933	444.00	5.3577	1462.85	1016.70	11.396
306.00	3.6951	931.42	623.72	9.959	446.00	5.3816	1470.24	1022.09	11.412
308.00	3.7194	939.37	629.64	9.985	448.00	5.4055	1477.62	1027.48	11.429
310.00	3.7437	947.32	635.56	10.011	450.00	5.4294	1484.99	1032.87	11.445
312.00	3.7680	955.26	641.48	10.036	452.00	5.4533	1492.37	1038.26	11.462
314.00	3.7923	963.20	647.40	10.062	454.00	5.4772	1499.75	1043.64	11.478
316.00	3.8166	971.14	653.32	10.087	456.00	5.5011	1507.11	1049.01	11.494
318.00	3.8409	979.08	659.23	10.112	458.00	5.5250	1514.47	1054.38	11.510
320.00	3.8651	987.01	665.14	10.137	460.00	5.5489	1521.82	1059.74	11.526
322.00	3.8894	994.93	671.05	10.161	462.00	5.5728	1529.16	1065.09	11.542
324.00	3.9136	1002.85	676.95	10.186	464.00	5.5967	1536.49	1070.44	11.558
326.00	3.9379	1010.77	682.85	10.210	466.00	5.6205	1543.82	1075.77	11.574
328.00	3.9621	1018.68	688.74	10.234	468.00	5.6444	1551.13	1081.10	11.590
330.00	3.9863	1026.58	694.63	10.258	470.00	5.6683	1558.44	1086.43	11.605
332.00	4.0105	1034.48	700.51	10.282	472.00	5.6921	1565.75	1091.74	11.621
334.00	4.0347	1042.38	706.39	10.306	474.00	5.7160	1573.04	1097.05	11.636
336.00	4.0589	1050.26	712.26	10.330	476.00	5.7399	1580.33	1102.35	11.651
338.00	4.0831	1058.14	718.12	10.353	478.00	5.7637	1587.61	1107.64	11.667
340.00	4.1073	1066.01	723.98	10.376	480.00	5.7876	1594.89	1112.93	11.682
342.00	4.1315	1073.88	729.83	10.399	482.00	5.8114	1602.16	1118.21	11.697
344.00	4.1557	1081.73	735.68	10.422	484.00	5.8353	1609.42	1123.49	11.712
346.00	4.1798	1089.58	741.51	10.445	486.00	5.8592	1616.67	1128.76	11.727
348.00	4.2040	1097.42	747.34	10.467	488.00	5.8830	1623.92	1134.02	11.742
350.00	4.2281	1105.26	753.16	10.490	490.00	5.9069	1631.16	1139.28	11.757
352.00	4.2523	1113.08	758.98	10.512	492.00	5.9307	1638.40	1144.53	11.771
354.00	4.2764	1120.90	764.78	10.534	494.00	5.9546	1645.63	1149.77	11.786
356.00	4.3006	1128.70	770.58	10.556	496.00	5.9784	1652.86	1155.01	11.801
358.00	4.3247	1136.50	776.37	10.578	498.00	6.0023	1660.08	1160.25	11.815
360.00	4.3489	1144.29	782.15	10.600	500.00	6.0261	1667.30	1165.48	11.830
362.00	4.3730	1152.07	787.91	10.621	502.00	6.0500	1674.51	1170.70	11.844
364.00	4.3971	1159.83	793.67	10.643	504.00	6.0738	1681.71	1175.92	11.858
366.00	4.4212	1167.59	799.42	10.664	506.00	6.0977	1688.92	1181.14	11.873
368.00	4.4453	1175.34	805.16	10.685	508.00	6.1216	1696.11	1186.35	11.887
370.00	4.4694	1183.08	810.90	10.706	510.00	6.1454	1703.31	1191.55	11.901
372.00	4.4935	1190.81	816.62	10.727	512.00	6.1693	1710.50	1196.76	11.915
374.00	4.5175	1198.53	822.33	10.748	514.00	6.1931	1717.68	1201.95	11.929
376.00	4.5416	1206.24	828.04	10.768	516.00	6.2170	1724.86	1207.15	11.943
378.00	4.5657	1213.94	833.74	10.789	518.00	6.2409	1732.04	1212.34	11.957
380.00	4.5898	1221.63	839.42	10.809	520.00	6.2647	1739.21	1217.52	11.971
382.00	4.6138	1229.31	845.10	10.829	522.00	6.2886	1746.38	1222.71	11.984
384.00	4.6379	1236.98	850.77	10.849	524.00	6.3125	1753.55	1227.88	11.998
386.00	4.6620	1244.65	856.43	10.869	526.00	6.3364	1760.71	1233.06	12.012
388.00	4.6860	1252.30	862.08	10.889	528.00	6.3602	1767.87	1238.23	12.025
390.00	4.7101	1259.94	867.72	10.908	530.00	6.3841	1775.03	1243.40	12.039
392.00	4.7341	1267.58	873.35	10.928	532.00	6.4080	1782.18	1248.56	12.052
394.00	4.7581	1275.20	878.97	10.947	534.00	6.4318	1789.33	1253.72	12.066
396.00	4.7822	1282.82	884.59	10.967	536.00	6.4557	1796.47	1258.88	12.079
398.00	4.8062	1290.42	890.19	10.986	538.00	6.4796	1803.61	1264.03	12.092
400.00	4.8302	1298.02	895.79	11.005	540.00	6.5035	1810.75	1269.18	12.106

500.00 PSIA ISOBAR

TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)
36.00	.2139	-96.71	-116.50	1.736
38.00	.2168	-92.55	-112.61	1.848
40.00	.2199	-88.15	-108.50	1.961
42.00	.2233	-83.51	-104.17	2.074
44.00	.2270	-78.61	-99.61	2.188
46.00	.2310	-73.42	-94.80	2.303
48.00	.2354	-67.93	-89.72	2.420
50.00	.2403	-62.11	-84.35	2.539
52.00	.2457	-55.93	-78.67	2.660
54.00	.2517	-49.39	-72.69	2.783
56.00	.2585	-42.45	-66.37	2.910
58.00	.2663	-34.97	-59.61	3.041
60.00	.2762	-27.09	-52.65	3.176
62.00	.2866	-18.39	-44.91	3.319
64.00	.2990	-8.98	-36.64	3.469
66.00	.3139	1.28	-27.76	3.627
68.00	.3321	12.45	-18.28	3.793
70.00	.3546	24.57	-8.24	3.969
72.00	.3820	37.36	2.01	4.149
74.00	.4146	50.58	12.23	4.330
76.00	.4511	63.77	22.04	4.506
78.00	.4897	76.46	31.15	4.671
80.00	.5289	88.41	39.48	4.822
82.00	.5677	99.60	47.08	4.960
84.00	.6057	110.11	54.07	5.087
86.00	.6427	120.03	60.57	5.203
88.00	.6788	129.47	66.66	5.312
90.00	.7139	138.49	72.44	5.413
92.00	.7482	147.17	77.95	5.509
94.00	.7816	155.56	83.24	5.599
96.00	.8144	163.70	88.34	5.685
98.00	.8465	171.62	93.29	5.766
100.00	.8780	179.35	98.12	5.844
102.00	.9089	186.92	102.82	5.919
104.00	.9393	194.35	107.44	5.991
106.00	.9692	201.64	111.96	6.061
108.00	.9988	208.83	116.42	6.128
110.00	1.0279	215.92	120.82	6.193
112.00	1.0566	222.92	125.16	6.256
114.00	1.0850	229.84	129.46	6.317
116.00	1.1130	236.70	133.71	6.377
118.00	1.1408	243.50	137.94	6.435
120.00	1.1683	250.24	142.14	6.492
122.00	1.1955	256.93	146.32	6.547
124.00	1.2225	263.59	150.48	6.601
126.00	1.2492	270.22	154.63	6.654
128.00	1.2757	276.81	158.77	6.706
130.00	1.3021	283.38	162.91	6.757
132.00	1.3282	289.93	167.04	6.807
134.00	1.3541	296.47	171.18	6.856
136.00	1.3799	303.00	175.32	6.905
138.00	1.4055	309.52	179.48	6.952
140.00	1.4310	316.04	183.64	6.999
142.00	1.4563	322.56	187.82	7.045
144.00	1.4815	329.08	192.01	7.091
146.00	1.5065	335.61	196.22	7.136
148.00	1.5314	342.15	200.46	7.181
150.00	1.5562	348.70	204.71	7.225
152.00	1.5809	355.27	208.99	7.268
154.00	1.6055	361.85	213.30	7.311
156.00	1.6300	368.45	217.64	7.354
158.00	1.6544	375.07	222.00	7.396
160.00	1.6787	381.72	226.40	7.438
162.00	1.7028	388.38	230.82	7.479
164.00	1.7270	395.07	235.28	7.520
166.00	1.7510	401.79	239.78	7.561
168.00	1.7749	408.54	244.31	7.601
170.00	1.7988	415.31	248.87	7.641
172.00	1.8226	422.11	253.47	7.681
174.00	1.8464	428.94	258.10	7.720
176.00	1.8700	435.80	262.77	7.760
178.00	1.8936	442.68	267.47	7.799
180.00	1.9172	449.60	272.21	7.837
182.00	1.9407	456.54	276.97	7.876
184.00	1.9640	463.49	281.76	7.914
186.00	1.9874	470.47	286.58	7.951
188.00	2.0107	477.48	291.44	7.989
190.00	2.0339	484.52	296.33	8.026
192.00	2.0571	491.60	301.26	8.063
194.00	2.0802	498.70	306.23	8.100
196.00	2.1033	505.84	311.23	8.136
198.00	2.1263	513.01	316.26	8.173
200.00	2.1493	520.21	321.34	8.209
202.00	2.1723	527.44	326.44	8.245
204.00	2.1952	534.70	331.58	8.281
206.00	2.2181	541.99	336.76	8.316
208.00	2.2409	549.31	341.96	8.352
210.00	2.2637	556.66	347.21	8.387
212.00	2.2865	564.04	352.48	8.422
214.00	2.3092	571.45	357.78	8.457
216.00	2.3320	578.89	363.12	8.491
218.00	2.3546	586.35	368.48	8.526
220.00	2.3773	593.84	373.87	8.560
222.00	2.3999	601.35	379.29	8.594
224.00	2.4225	608.89	384.74	8.628
226.00	2.4451	616.45	390.22	8.661
228.00	2.4677	624.04	395.72	8.695
230.00	2.4902	631.66	401.25	8.728
232.00	2.5127	639.29	406.80	8.761
234.00	2.5352	646.95	412.38	8.794
236.00	2.5577	654.63	417.98	8.827
238.00	2.5801	662.34	423.61	8.859
240.00	2.6025	670.06	429.26	8.891
242.00	2.6249	677.80	434.92	8.923
244.00	2.6473	685.56	440.61	8.955
246.00	2.6697	693.34	446.33	8.987
248.00	2.6921	701.14	452.05	9.019
250.00	2.7144	708.96	457.80	9.050
252.00	2.7367	716.79	463.57	9.081
254.00	2.7590	724.63	469.35	9.112
256.00	2.7813	732.50	475.15	9.143
258.00	2.8036	740.37	480.96	9.174
260.00	2.8258	748.26	486.79	9.204

TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)	TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)
262.00	2.8481	756.16	492.64	9.235	402.00	4.3792	1305.78	900.59	10.918
264.00	2.8703	764.07	498.49	9.265	404.00	4.4008	1313.37	906.18	10.937
266.00	2.8925	771.99	504.36	9.295	406.00	4.4225	1320.95	911.75	10.955
268.00	2.9147	779.93	510.24	9.324	408.00	4.4441	1328.52	917.32	10.974
270.00	2.9369	787.87	516.13	9.354	410.00	4.4657	1336.07	922.88	10.992
272.00	2.9591	795.80	522.00	9.383	412.00	4.4874	1343.62	928.42	11.011
274.00	2.9812	803.73	527.89	9.412	414.00	4.5090	1351.16	933.96	11.029
276.00	3.0034	811.67	533.78	9.441	416.00	4.5306	1358.70	939.49	11.047
278.00	3.0255	819.61	539.67	9.470	418.00	4.5522	1366.22	945.02	11.065
280.00	3.0476	827.56	545.57	9.498	420.00	4.5738	1373.74	950.53	11.083
282.00	3.0697	835.51	551.48	9.526	422.00	4.5954	1381.24	956.04	11.101
284.00	3.0918	843.47	557.40	9.555	424.00	4.6170	1388.74	961.54	11.119
286.00	3.1139	851.43	563.31	9.582	426.00	4.6386	1396.22	967.03	11.136
288.00	3.1359	859.39	569.24	9.610	428.00	4.6602	1403.70	972.51	11.154
290.00	3.1580	867.36	575.16	9.638	430.00	4.6818	1411.17	977.98	11.171
292.00	3.1800	875.32	581.09	9.665	432.00	4.7034	1418.63	983.44	11.189
294.00	3.2020	883.29	587.02	9.692	434.00	4.7250	1426.08	988.89	11.206
296.00	3.2240	891.26	592.95	9.719	436.00	4.7466	1433.52	994.34	11.223
298.00	3.2460	899.23	598.88	9.746	438.00	4.7681	1440.95	999.77	11.240
300.00	3.2680	907.20	604.82	9.773	440.00	4.7897	1448.37	1005.20	11.257
302.00	3.2900	915.16	610.75	9.799	442.00	4.8113	1455.79	1010.62	11.274
304.00	3.3120	923.13	616.69	9.826	444.00	4.8328	1463.19	1016.03	11.290
306.00	3.3339	931.10	622.62	9.852	446.00	4.8544	1470.59	1021.43	11.307
308.00	3.3559	939.06	628.55	9.878	448.00	4.8759	1477.98	1026.83	11.324
310.00	3.3778	947.02	634.48	9.903	450.00	4.8975	1485.36	1032.22	11.340
312.00	3.3997	954.98	640.41	9.929	452.00	4.9190	1492.75	1037.61	11.356
314.00	3.4216	962.93	646.34	9.954	454.00	4.9405	1500.13	1043.00	11.373
316.00	3.4435	970.88	652.26	9.980	456.00	4.9621	1507.50	1048.38	11.389
318.00	3.4654	978.83	658.18	10.005	458.00	4.9836	1514.86	1053.75	11.405
320.00	3.4873	986.77	664.10	10.030	460.00	5.0051	1522.22	1059.11	11.421
322.00	3.5092	994.71	670.01	10.054	462.00	5.0266	1529.56	1064.47	11.437
324.00	3.5311	1002.64	675.92	10.079	464.00	5.0481	1536.90	1069.81	11.453
326.00	3.5529	1010.57	681.83	10.103	466.00	5.0697	1544.23	1075.16	11.469
328.00	3.5748	1018.49	687.73	10.127	468.00	5.0912	1551.56	1080.49	11.484
330.00	3.5966	1026.40	693.62	10.152	470.00	5.1127	1558.87	1085.81	11.500
332.00	3.6185	1034.31	699.51	10.175	472.00	5.1342	1566.18	1091.13	11.515
334.00	3.6403	1042.22	705.39	10.199	474.00	5.1557	1573.48	1096.45	11.531
336.00	3.6621	1050.11	711.27	10.223	476.00	5.1772	1580.78	1101.75	11.546
338.00	3.6839	1058.00	717.14	10.246	478.00	5.1987	1588.06	1107.05	11.561
340.00	3.7058	1065.88	723.00	10.269	480.00	5.2202	1595.34	1112.34	11.577
342.00	3.7276	1073.76	728.86	10.292	482.00	5.2417	1602.62	1117.62	11.592
344.00	3.7494	1081.63	734.71	10.315	484.00	5.2632	1609.88	1122.90	11.607
346.00	3.7712	1089.49	740.55	10.338	486.00	5.2847	1617.14	1128.17	11.622
348.00	3.7930	1097.34	746.39	10.361	488.00	5.3062	1624.40	1133.44	11.637
350.00	3.8147	1105.18	752.22	10.383	490.00	5.3276	1631.65	1138.70	11.651
352.00	3.8365	1113.01	758.04	10.406	492.00	5.3491	1638.89	1143.95	11.666
354.00	3.8583	1120.84	763.85	10.428	494.00	5.3706	1646.13	1149.20	11.681
356.00	3.8801	1128.66	769.65	10.450	496.00	5.3921	1653.36	1154.45	11.696
358.00	3.9018	1136.47	775.44	10.472	498.00	5.4136	1660.58	1159.68	11.710
360.00	3.9236	1144.26	781.23	10.493	500.00	5.4351	1667.80	1164.92	11.725
362.00	3.9453	1152.05	787.00	10.515	502.00	5.4566	1675.02	1170.14	11.739
364.00	3.9671	1159.83	792.77	10.536	504.00	5.4781	1682.23	1175.37	11.753
366.00	3.9888	1167.60	798.53	10.558	506.00	5.4996	1689.44	1180.58	11.768
368.00	4.0105	1175.35	804.27	10.579	508.00	5.5210	1696.64	1185.80	11.782
370.00	4.0322	1183.10	810.01	10.600	510.00	5.5425	1703.84	1191.01	11.796
372.00	4.0540	1190.84	815.74	10.621	512.00	5.5640	1711.03	1196.21	11.810
374.00	4.0757	1198.57	821.46	10.641	514.00	5.5855	1718.22	1201.41	11.824
376.00	4.0974	1206.29	827.18	10.662	516.00	5.6070	1725.40	1206.61	11.838
378.00	4.1191	1214.00	832.88	10.682	518.00	5.6285	1732.58	1211.80	11.852
380.00	4.1408	1221.70	838.57	10.703	520.00	5.6500	1739.76	1216.99	11.866
382.00	4.1625	1229.40	844.26	10.723	522.00	5.6715	1746.93	1222.17	11.879
384.00	4.1842	1237.08	849.93	10.743	524.00	5.6930	1754.10	1227.35	11.893
386.00	4.2058	1244.75	855.60	10.763	526.00	5.7145	1761.27	1232.53	11.907
388.00	4.2275	1252.41	861.25	10.783	528.00	5.7360	1768.43	1237.70	11.920
390.00	4.2492	1260.07	866.90	10.802	530.00	5.7575	1775.59	1242.87	11.934
392.00	4.2709	1267.71	872.54	10.822	532.00	5.7790	1782.75	1248.04	11.947
394.00	4.2925	1275.34	878.17	10.841	534.00	5.8005	1789.90	1253.20	11.961
396.00	4.3142	1282.97	883.79	10.861	536.00	5.8219	1797.05	1258.36	11.974
398.00	4.3359	1290.58	889.40	10.880	538.00	5.8434	1804.19	1263.52	11.987
400.00	4.3575	1298.19	895.00	10.899	540.00	5.8649	1811.33	1268.67	12.001

600.00 PSIA ISOBAR

TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)
36.00	.2121	-93.66	-117.21	1.711
38.00	.2148	-89.57	-113.42	1.821
40.00	.2177	-85.26	-109.44	1.932
42.00	.2209	-80.72	-105.25	2.043
44.00	.2243	-75.94	-100.84	2.154
46.00	.2280	-70.89	-96.20	2.266
48.00	.2320	-65.56	-91.32	2.379
50.00	.2364	-59.94	-86.19	2.494
52.00	.2412	-54.00	-80.78	2.610
54.00	.2465	-47.76	-75.12	2.728
56.00	.2523	-41.18	-69.20	2.848
58.00	.2588	-34.17	-62.91	2.971
60.00	.2671	-26.84	-56.50	3.096
62.00	.2754	-18.90	-49.48	3.227
64.00	.2848	-10.46	-42.08	3.362
66.00	.2956	-1.48	-34.30	3.500
68.00	.3082	8.05	-26.17	3.641
70.00	.3228	18.11	-17.73	3.787
72.00	.3398	28.48	-9.25	3.933
74.00	.3594	39.22	-.69	4.080
76.00	.3818	50.27	7.87	4.228
78.00	.4067	61.48	16.32	4.373
80.00	.4335	72.65	24.52	4.515
82.00	.4617	83.62	32.35	4.650
84.00	.4907	94.27	39.79	4.779
86.00	.5198	104.54	46.83	4.899
88.00	.5490	114.44	53.49	5.013
90.00	.5778	123.97	59.81	5.120
92.00	.6064	133.18	65.85	5.221
94.00	.6345	142.08	71.63	5.317
96.00	.6622	150.72	77.20	5.408
98.00	.6894	159.13	82.59	5.495
100.00	.7162	167.33	87.81	5.578
102.00	.7426	175.34	92.89	5.657
104.00	.7686	183.19	97.85	5.733
106.00	.7943	190.89	102.70	5.807
108.00	.8195	198.45	107.46	5.877
110.00	.8445	205.90	112.14	5.946
112.00	.8691	213.25	116.75	6.012
114.00	.8934	220.50	121.30	6.076
116.00	.9175	227.66	125.79	6.138
118.00	.9413	234.76	130.24	6.199
120.00	.9648	241.78	134.66	6.258
122.00	.9881	248.75	139.04	6.315
124.00	1.0112	255.66	143.39	6.372
126.00	1.0341	262.53	147.72	6.427
128.00	1.0568	269.37	152.03	6.480
130.00	1.0793	276.17	156.33	6.533
132.00	1.1016	282.94	160.63	6.585
134.00	1.1237	289.68	164.92	6.636
136.00	1.1457	296.41	169.20	6.685
138.00	1.1676	303.13	173.49	6.734
140.00	1.1893	309.83	177.79	6.783
142.00	1.2108	316.53	182.09	6.830
144.00	1.2323	323.22	186.41	6.877
146.00	1.2536	329.92	190.73	6.923
148.00	1.2748	336.62	195.08	6.969
150.00	1.2959	343.32	199.44	7.014
152.00	1.3168	350.04	203.83	7.058
154.00	1.3377	356.77	208.24	7.102
156.00	1.3585	363.51	212.67	7.146
158.00	1.3792	370.26	217.13	7.189
160.00	1.3998	377.03	221.61	7.231
162.00	1.4203	383.83	226.13	7.273
164.00	1.4408	390.64	230.67	7.315
166.00	1.4611	397.48	235.25	7.357
168.00	1.4814	404.34	239.85	7.398
170.00	1.5016	411.22	244.49	7.439
172.00	1.5218	418.13	249.17	7.479
174.00	1.5419	425.07	253.87	7.519
176.00	1.5619	432.03	258.61	7.559
178.00	1.5819	439.01	263.38	7.598
180.00	1.6018	446.02	268.18	7.637
182.00	1.6216	453.05	273.00	7.676
184.00	1.6413	460.08	277.84	7.715
186.00	1.6611	467.14	282.71	7.753
188.00	1.6807	474.23	287.62	7.791
190.00	1.7003	481.35	292.56	7.828
192.00	1.7199	488.49	297.53	7.866
194.00	1.7394	495.67	302.54	7.903
196.00	1.7589	502.88	307.58	7.940
198.00	1.7783	510.11	312.66	7.977
200.00	1.7977	517.38	317.78	8.013
202.00	1.8171	524.68	322.92	8.050
204.00	1.8364	532.00	328.10	8.086
206.00	1.8557	539.36	333.32	8.121
208.00	1.8749	546.74	338.57	8.157
210.00	1.8941	554.15	343.84	8.193
212.00	1.9133	561.59	349.16	8.228
214.00	1.9324	569.06	354.50	8.263
216.00	1.9516	576.56	359.87	8.298
218.00	1.9707	584.08	365.27	8.332
220.00	1.9897	591.62	370.70	8.367
222.00	2.0088	599.19	376.15	8.401
224.00	2.0278	606.78	381.64	8.435
226.00	2.0468	614.40	387.15	8.469
228.00	2.0657	622.05	392.68	8.503
230.00	2.0847	629.71	398.24	8.536
232.00	2.1036	637.40	403.83	8.569
234.00	2.1225	645.11	409.44	8.603
236.00	2.1414	652.84	415.08	8.635
238.00	2.1603	660.59	420.73	8.668
240.00	2.1791	668.36	426.41	8.701
242.00	2.1979	676.15	432.11	8.733
244.00	2.2167	683.96	437.83	8.765
246.00	2.2355	691.78	443.57	8.797
248.00	2.2543	699.62	449.32	8.829
250.00	2.2731	707.48	455.10	8.860
252.00	2.2918	715.36	460.89	8.892
254.00	2.3105	723.25	466.70	8.923
256.00	2.3293	731.15	472.53	8.954
258.00	2.3480	739.06	478.37	8.985
260.00	2.3666	746.99	484.22	9.015

TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)	TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)
262.00	2.3853	754.93	490.09	9.046	402.00	3.6668	1306.23	899.10	10.734
264.00	2.4040	762.88	495.96	9.076	404.00	3.6849	1313.83	904.69	10.753
266.00	2.4226	770.84	501.86	9.106	406.00	3.7030	1321.43	910.28	10.772
268.00	2.4412	778.81	507.76	9.136	408.00	3.7211	1329.01	915.86	10.791
270.00	2.4598	786.79	513.67	9.166	410.00	3.7391	1336.58	921.42	10.809
272.00	2.4784	794.75	519.57	9.195	412.00	3.7572	1344.15	926.98	10.828
274.00	2.4970	802.71	525.47	9.224	414.00	3.7753	1351.71	932.53	10.846
276.00	2.5156	810.69	531.38	9.253	416.00	3.7933	1359.25	938.07	10.864
278.00	2.5341	818.66	537.30	9.282	418.00	3.8114	1366.79	943.61	10.882
280.00	2.5526	826.64	543.22	9.310	420.00	3.8294	1374.32	949.13	10.900
282.00	2.5712	834.63	549.15	9.339	422.00	3.8475	1381.84	954.65	10.918
284.00	2.5897	842.62	555.08	9.367	424.00	3.8655	1389.35	960.16	10.936
286.00	2.6082	850.61	561.02	9.395	426.00	3.8836	1396.86	965.66	10.953
288.00	2.6267	858.60	566.96	9.423	428.00	3.9016	1404.35	971.15	10.971
290.00	2.6452	866.60	572.90	9.451	430.00	3.9196	1411.83	976.63	10.988
292.00	2.6636	874.59	578.85	9.478	432.00	3.9377	1419.30	982.10	11.006
294.00	2.6821	882.59	584.79	9.505	434.00	3.9557	1426.77	987.56	11.023
296.00	2.7005	890.59	590.74	9.533	436.00	3.9737	1434.23	993.02	11.040
298.00	2.7189	898.58	596.69	9.559	438.00	3.9917	1441.67	998.46	11.057
300.00	2.7374	906.58	602.65	9.586	440.00	4.0097	1449.11	1003.90	11.074
302.00	2.7558	914.57	608.60	9.613	442.00	4.0277	1456.54	1009.33	11.091
304.00	2.7742	922.57	614.55	9.639	444.00	4.0457	1463.96	1014.75	11.108
306.00	2.7925	930.56	620.50	9.665	446.00	4.0637	1471.37	1020.16	11.124
308.00	2.8109	938.55	626.45	9.691	448.00	4.0817	1478.77	1025.57	11.141
310.00	2.8293	946.53	632.39	9.717	450.00	4.0997	1486.16	1030.96	11.157
312.00	2.8476	954.52	638.34	9.743	452.00	4.1177	1493.56	1036.37	11.174
314.00	2.8660	962.50	644.28	9.768	454.00	4.1357	1500.96	1041.76	11.190
316.00	2.8843	970.47	650.22	9.794	456.00	4.1537	1508.34	1047.15	11.206
318.00	2.9026	978.44	656.16	9.819	458.00	4.1717	1515.72	1052.53	11.222
320.00	2.9210	986.41	662.09	9.844	460.00	4.1896	1523.09	1057.90	11.238
322.00	2.9393	994.37	668.02	9.869	462.00	4.2076	1530.44	1063.27	11.254
324.00	2.9576	1002.33	673.94	9.893	464.00	4.2256	1537.80	1068.62	11.270
326.00	2.9759	1010.28	679.86	9.918	466.00	4.2436	1545.14	1073.97	11.286
328.00	2.9942	1018.22	685.78	9.942	468.00	4.2615	1552.48	1079.31	11.302
330.00	3.0125	1026.16	691.68	9.966	470.00	4.2795	1559.80	1084.65	11.317
332.00	3.0307	1034.10	697.59	9.990	472.00	4.2974	1567.12	1089.97	11.333
334.00	3.0490	1042.02	703.49	10.014	474.00	4.3154	1574.44	1095.29	11.348
336.00	3.0673	1049.94	709.38	10.038	476.00	4.3333	1581.74	1100.60	11.364
338.00	3.0855	1057.85	715.26	10.061	478.00	4.3513	1589.04	1105.91	11.379
340.00	3.1038	1065.76	721.14	10.084	480.00	4.3693	1596.33	1111.20	11.394
342.00	3.1220	1073.65	727.01	10.108	482.00	4.3872	1603.61	1116.50	11.410
344.00	3.1403	1081.54	732.87	10.131	484.00	4.4051	1610.89	1121.78	11.425
346.00	3.1585	1089.42	738.73	10.153	486.00	4.4231	1618.16	1127.06	11.440
348.00	3.1767	1097.30	744.58	10.176	488.00	4.4410	1625.43	1132.33	11.454
350.00	3.1949	1105.16	750.42	10.199	490.00	4.4590	1632.69	1137.60	11.469
352.00	3.2132	1113.02	756.25	10.221	492.00	4.4769	1639.94	1142.86	11.484
354.00	3.2314	1120.86	762.08	10.243	494.00	4.4949	1647.18	1148.11	11.499
356.00	3.2496	1128.70	767.89	10.265	496.00	4.5128	1654.42	1153.36	11.513
358.00	3.2678	1136.53	773.70	10.287	498.00	4.5307	1661.66	1158.60	11.528
360.00	3.2860	1144.35	779.50	10.309	500.00	4.5487	1668.89	1163.84	11.542
362.00	3.3041	1152.15	785.29	10.331	502.00	4.5666	1676.11	1169.08	11.557
364.00	3.3223	1159.95	791.07	10.352	504.00	4.5845	1683.33	1174.30	11.571
366.00	3.3405	1167.73	796.83	10.373	506.00	4.6025	1690.55	1179.53	11.586
368.00	3.3587	1175.51	802.59	10.395	508.00	4.6204	1697.76	1184.75	11.600
370.00	3.3768	1183.28	808.34	10.416	510.00	4.6384	1704.96	1189.96	11.614
372.00	3.3950	1191.04	814.09	10.437	512.00	4.6563	1712.16	1195.17	11.628
374.00	3.4131	1198.78	819.82	10.457	514.00	4.6742	1719.36	1200.37	11.642
376.00	3.4313	1206.52	825.54	10.478	516.00	4.6922	1726.55	1205.58	11.656
378.00	3.4494	1214.25	831.26	10.498	518.00	4.7101	1733.74	1210.77	11.670
380.00	3.4676	1221.97	836.96	10.519	520.00	4.7280	1740.93	1215.97	11.684
382.00	3.4857	1229.68	842.66	10.539	522.00	4.7459	1748.11	1221.16	11.698
384.00	3.5038	1237.38	848.34	10.559	524.00	4.7639	1755.28	1226.34	11.711
386.00	3.5219	1245.07	854.02	10.579	526.00	4.7818	1762.46	1231.53	11.725
388.00	3.5401	1252.75	859.69	10.599	528.00	4.7997	1769.63	1236.70	11.739
390.00	3.5582	1260.42	865.34	10.619	530.00	4.8177	1776.79	1241.88	11.752
392.00	3.5763	1268.08	870.99	10.638	532.00	4.8356	1783.96	1247.05	11.766
394.00	3.5944	1275.73	876.63	10.658	534.00	4.8535	1791.12	1252.22	11.779
396.00	3.6125	1283.37	882.26	10.677	536.00	4.8714	1798.27	1257.39	11.792
398.00	3.6306	1291.00	887.88	10.696	538.00	4.8894	1805.42	1262.55	11.806
400.00	3.6487	1298.62	893.50	10.715	540.00	4.9073	1812.57	1267.71	11.819

700.00 PSIA ISOBAR

TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)
36.00	.2104	-90.59	-117.85	1.687
38.00	.2130	-86.57	-114.16	1.796
40.00	.2157	-82.34	-110.28	1.905
42.00	.2187	-77.88	-106.21	2.013
44.00	.2219	-73.20	-101.94	2.122
46.00	.2253	-68.27	-97.45	2.232
48.00	.2290	-63.08	-92.74	2.342
50.00	.2330	-57.62	-87.79	2.454
52.00	.2373	-51.87	-82.61	2.566
54.00	.2420	-45.85	-77.20	2.680
56.00	.2472	-39.54	-71.57	2.795
58.00	.2529	-32.86	-65.62	2.912
60.00	.2599	-25.93	-59.60	3.030
62.00	.2669	-18.48	-53.05	3.153
64.00	.2746	-10.65	-46.22	3.278
66.00	.2832	-2.41	-39.10	3.405
68.00	.2929	6.21	-31.74	3.533
70.00	.3039	15.17	-24.19	3.663
72.00	.3162	24.27	-16.69	3.791
74.00	.3301	33.59	-9.17	3.918
76.00	.3457	43.15	-1.62	4.046
78.00	.3629	52.95	5.94	4.173
80.00	.3818	62.91	13.46	4.299
82.00	.4020	72.95	20.88	4.423
84.00	.4234	82.98	28.13	4.544
86.00	.4457	92.91	35.17	4.661
88.00	.4685	102.66	41.97	4.773
90.00	.4917	112.22	48.53	4.880
92.00	.5150	121.55	54.84	4.983
94.00	.5383	130.67	60.94	5.081
96.00	.5615	139.56	66.82	5.175
98.00	.5845	148.24	72.52	5.264
100.00	.6074	156.73	78.05	5.350
102.00	.6300	165.04	83.44	5.432
104.00	.6524	173.19	88.69	5.511
106.00	.6745	181.19	93.82	5.587
108.00	.6964	189.05	98.84	5.661
110.00	.7180	196.79	103.77	5.732
112.00	.7394	204.41	108.63	5.801
114.00	.7606	211.93	113.40	5.867
116.00	.7815	219.36	118.12	5.932
118.00	.8023	226.70	122.78	5.994
120.00	.8228	233.97	127.39	6.056
122.00	.8432	241.17	131.95	6.115
124.00	.8633	248.31	136.49	6.173
126.00	.8833	255.40	140.99	6.230
128.00	.9031	262.45	145.47	6.285
130.00	.9227	269.45	149.92	6.340
132.00	.9422	276.41	154.37	6.393
134.00	.9615	283.35	158.80	6.445
136.00	.9807	290.26	163.22	6.496
138.00	.9998	297.15	167.65	6.546
140.00	1.0187	304.03	172.07	6.596
142.00	1.0375	310.89	176.49	6.645
144.00	1.0562	317.74	180.93	6.692
146.00	1.0748	324.59	185.37	6.740
148.00	1.0933	331.44	189.82	6.786
150.00	1.1116	338.29	194.29	6.832
152.00	1.1299	345.14	198.78	6.878
154.00	1.1481	352.00	203.28	6.922
156.00	1.1662	358.87	207.81	6.967
158.00	1.1842	365.75	212.35	7.011
160.00	1.2021	372.65	216.93	7.054
162.00	1.2200	379.56	221.53	7.097
164.00	1.2378	386.49	226.15	7.139
166.00	1.2555	393.43	230.81	7.182
168.00	1.2731	400.40	235.49	7.223
170.00	1.2907	407.39	240.20	7.265
172.00	1.3082	414.40	244.95	7.306
174.00	1.3256	421.44	249.72	7.346
176.00	1.3430	428.49	254.53	7.387
178.00	1.3603	435.57	259.36	7.427
180.00	1.3776	442.68	264.23	7.466
182.00	1.3948	449.78	269.10	7.506
184.00	1.4120	456.89	273.99	7.544
186.00	1.4291	464.03	278.91	7.583
188.00	1.4461	471.19	283.87	7.621
190.00	1.4631	478.38	288.86	7.659
192.00	1.4801	485.61	293.88	7.697
194.00	1.4970	492.85	298.94	7.735
196.00	1.5139	500.13	304.03	7.772
198.00	1.5307	507.44	309.16	7.809
200.00	1.5475	514.78	314.32	7.846
202.00	1.5643	522.14	319.51	7.883
204.00	1.5810	529.54	324.74	7.919
206.00	1.5977	536.96	330.00	7.955
208.00	1.6143	544.41	335.29	7.991
210.00	1.6310	551.89	340.62	8.027
212.00	1.6476	559.39	345.97	8.063
214.00	1.6641	566.92	351.36	8.098
216.00	1.6807	574.48	356.77	8.133
218.00	1.6972	582.06	362.21	8.168
220.00	1.7137	589.66	367.68	8.203
222.00	1.7301	597.28	373.17	8.237
224.00	1.7466	604.93	378.69	8.272
226.00	1.7630	612.61	384.24	8.306
228.00	1.7794	620.30	389.81	8.340
230.00	1.7957	628.02	395.40	8.373
232.00	1.8121	635.76	401.02	8.407
234.00	1.8284	643.51	406.66	8.440
236.00	1.8447	651.29	412.33	8.473
238.00	1.8610	659.09	418.01	8.506
240.00	1.8773	666.90	423.72	8.539
242.00	1.8936	674.73	429.45	8.571
244.00	1.9098	682.58	435.19	8.604
246.00	1.9260	690.45	440.95	8.636
248.00	1.9423	698.33	446.74	8.668
250.00	1.9585	706.23	452.54	8.699
252.00	1.9746	714.14	458.35	8.731
254.00	1.9908	722.06	464.18	8.762
256.00	2.0069	730.00	470.03	8.793
258.00	2.0231	737.95	475.89	8.824
260.00	2.0392	745.91	481.76	8.855

TEMPER-ATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)	TEMPER-ATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)
262.00	2.0553	753.88	487.65	8.885	402.00	3.1582	1306.86	897.75	10.579
264.00	2.0714	761.87	493.55	8.916	404.00	3.1738	1314.47	903.35	10.598
266.00	2.0875	769.86	499.46	8.946	406.00	3.1893	1322.07	908.94	10.617
268.00	2.1035	777.86	505.38	8.976	408.00	3.2048	1329.67	914.52	10.636
270.00	2.1196	785.87	511.31	9.006	410.00	3.2204	1337.25	920.09	10.654
272.00	2.1356	793.86	517.22	9.035	412.00	3.2359	1344.82	925.66	10.673
274.00	2.1516	801.86	523.14	9.064	414.00	3.2514	1352.39	931.21	10.691
276.00	2.1676	809.86	529.07	9.094	416.00	3.2669	1359.95	936.76	10.709
278.00	2.1836	817.87	535.01	9.122	418.00	3.2824	1367.50	942.30	10.727
280.00	2.1996	825.88	540.95	9.151	420.00	3.2979	1375.04	947.84	10.745
282.00	2.2156	833.89	546.90	9.180	422.00	3.3135	1382.57	953.36	10.763
284.00	2.2315	841.91	552.85	9.208	424.00	3.3290	1390.10	958.88	10.781
286.00	2.2475	849.93	558.80	9.236	426.00	3.3445	1397.61	964.38	10.799
288.00	2.2634	857.96	564.76	9.264	428.00	3.3599	1405.12	969.88	10.816
290.00	2.2793	865.98	570.72	9.292	430.00	3.3754	1412.62	975.37	10.834
292.00	2.2952	874.01	576.69	9.320	432.00	3.3909	1420.10	980.85	10.851
294.00	2.3111	882.03	582.66	9.347	434.00	3.4064	1427.58	986.33	10.868
296.00	2.3270	890.06	588.63	9.374	436.00	3.4219	1435.05	991.79	10.886
298.00	2.3429	898.09	594.60	9.401	438.00	3.4374	1442.51	997.25	10.903
300.00	2.3587	906.12	600.57	9.428	440.00	3.4528	1449.96	1002.69	10.920
302.00	2.3746	914.14	606.54	9.455	442.00	3.4683	1457.41	1008.13	10.936
304.00	2.3904	922.17	612.52	9.481	444.00	3.4838	1464.84	1013.56	10.953
306.00	2.4063	930.19	618.49	9.507	446.00	3.4992	1472.26	1018.99	10.970
308.00	2.4221	938.21	624.46	9.534	448.00	3.5147	1479.68	1024.40	10.987
310.00	2.4379	946.23	630.43	9.560	450.00	3.5301	1487.09	1029.81	11.003
312.00	2.4537	954.24	636.40	9.585	452.00	3.5456	1494.50	1035.22	11.019
314.00	2.4695	962.25	642.36	9.611	454.00	3.5610	1501.91	1040.62	11.036
316.00	2.4853	970.26	648.32	9.636	456.00	3.5765	1509.31	1046.02	11.052
318.00	2.5011	978.26	654.28	9.662	458.00	3.5919	1516.70	1051.41	11.068
320.00	2.5168	986.26	660.24	9.687	460.00	3.6074	1524.08	1056.79	11.084
322.00	2.5326	994.25	666.19	9.712	462.00	3.6228	1531.45	1062.17	11.100
324.00	2.5483	1002.24	672.14	9.736	464.00	3.6382	1538.82	1067.53	11.116
326.00	2.5641	1010.22	678.08	9.761	466.00	3.6537	1546.17	1072.89	11.132
328.00	2.5798	1018.20	684.02	9.785	468.00	3.6691	1553.52	1078.24	11.148
330.00	2.5956	1026.17	689.95	9.809	470.00	3.6845	1560.86	1083.58	11.163
332.00	2.6113	1034.13	695.87	9.833	472.00	3.6999	1568.20	1088.92	11.179
334.00	2.6270	1042.09	701.79	9.857	474.00	3.7154	1575.52	1094.24	11.195
336.00	2.6427	1050.04	707.71	9.881	476.00	3.7308	1582.84	1099.56	11.210
338.00	2.6584	1057.98	713.61	9.905	478.00	3.7462	1590.15	1104.87	11.225
340.00	2.6741	1065.91	719.51	9.928	480.00	3.7616	1597.45	1110.18	11.240
342.00	2.6898	1073.83	725.40	9.951	482.00	3.7770	1604.74	1115.48	11.256
344.00	2.7055	1081.75	731.29	9.974	484.00	3.7924	1612.03	1120.77	11.271
346.00	2.7212	1089.66	737.16	9.997	486.00	3.8079	1619.31	1126.05	11.286
348.00	2.7369	1097.56	743.03	10.020	488.00	3.8233	1626.59	1131.33	11.301
350.00	2.7525	1105.44	748.89	10.043	490.00	3.8387	1633.85	1136.60	11.316
352.00	2.7682	1113.32	754.74	10.065	492.00	3.8541	1641.12	1141.87	11.330
354.00	2.7839	1121.19	760.58	10.087	494.00	3.8695	1648.37	1147.13	11.345
356.00	2.7995	1129.05	766.41	10.110	496.00	3.8849	1655.62	1152.38	11.360
358.00	2.8152	1136.90	772.23	10.132	498.00	3.9003	1662.86	1157.63	11.374
360.00	2.8308	1144.74	778.05	10.153	500.00	3.9157	1670.10	1162.88	11.389
362.00	2.8465	1152.57	783.84	10.175	502.00	3.9311	1677.33	1168.11	11.403
364.00	2.8621	1160.38	789.63	10.197	504.00	3.9465	1684.56	1173.35	11.418
366.00	2.8777	1168.18	795.41	10.218	506.00	3.9619	1691.78	1178.58	11.432
368.00	2.8933	1175.97	801.18	10.239	508.00	3.9773	1699.00	1183.80	11.446
370.00	2.9090	1183.75	806.93	10.260	510.00	3.9927	1706.21	1189.02	11.460
372.00	2.9246	1191.52	812.68	10.281	512.00	4.0080	1713.42	1194.23	11.474
374.00	2.9402	1199.28	818.42	10.302	514.00	4.0234	1720.63	1199.44	11.488
376.00	2.9558	1207.03	824.15	10.323	516.00	4.0388	1727.83	1204.65	11.502
378.00	2.9714	1214.77	829.87	10.343	518.00	4.0542	1735.02	1209.85	11.516
380.00	2.9870	1222.50	835.58	10.364	520.00	4.0696	1742.22	1215.05	11.530
382.00	3.0026	1230.22	841.28	10.384	522.00	4.0850	1749.40	1220.25	11.544
384.00	3.0181	1237.93	846.97	10.404	524.00	4.1004	1756.59	1225.44	11.558
386.00	3.0337	1245.63	852.65	10.424	526.00	4.1158	1763.77	1230.62	11.571
388.00	3.0493	1253.32	858.32	10.444	528.00	4.1311	1770.95	1235.81	11.585
390.00	3.0649	1260.99	863.98	10.464	530.00	4.1465	1778.12	1240.99	11.599
392.00	3.0804	1268.66	869.63	10.483	532.00	4.1619	1785.29	1246.17	11.612
394.00	3.0960	1276.32	875.27	10.503	534.00	4.1773	1792.46	1251.34	11.626
396.00	3.1116	1283.97	880.91	10.522	536.00	4.1927	1799.62	1256.51	11.639
398.00	3.1271	1291.61	886.53	10.541	538.00	4.2080	1806.78	1261.68	11.652
400.00	3.1427	1299.24	892.15	10.560	540.00	4.2234	1813.94	1266.85	11.666

800.00 PSIA ISOBAR

TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)
36.00	.2089	-87.51	-118.43	1.665
38.00	.2113	-83.55	-114.83	1.772
40.00	.2139	-79.38	-111.04	1.879
42.00	.2166	-75.01	-107.08	1.986
44.00	.2196	-70.41	-102.92	2.093
46.00	.2228	-65.58	-98.57	2.200
48.00	.2262	-60.51	-94.00	2.308
50.00	.2299	-55.18	-89.22	2.417
52.00	.2339	-49.59	-84.21	2.526
54.00	.2382	-43.75	-79.01	2.637
56.00	.2428	-37.66	-73.60	2.747
58.00	.2479	-31.23	-67.93	2.860
60.00	.2541	-24.57	-62.18	2.974
62.00	.2600	-17.49	-55.99	3.091
64.00	.2666	-10.08	-49.55	3.209
66.00	.2739	-2.35	-42.89	3.327
68.00	.2819	5.68	-36.04	3.447
70.00	.2907	13.96	-29.07	3.567
72.00	.3004	22.27	-22.20	3.684
74.00	.3112	30.71	-15.37	3.799
76.00	.3231	39.32	-8.52	3.914
78.00	.3361	48.12	-1.64	4.029
80.00	.3503	57.11	5.26	4.142
82.00	.3655	66.26	12.15	4.255
84.00	.3818	75.52	18.99	4.367
86.00	.3990	84.82	25.76	4.476
88.00	.4169	94.12	32.41	4.583
90.00	.4353	103.37	38.92	4.687
92.00	.4542	112.52	45.28	4.788
94.00	.4734	121.55	51.47	4.885
96.00	.4927	130.44	57.50	4.978
98.00	.5121	139.18	63.37	5.069
100.00	.5315	147.78	69.10	5.155
102.00	.5508	156.23	74.69	5.239
104.00	.5701	164.54	80.14	5.320
106.00	.5893	172.72	85.48	5.398
108.00	.6083	180.77	90.72	5.473
110.00	.6272	188.70	95.85	5.546
112.00	.6459	196.53	100.90	5.616
114.00	.6645	204.25	105.88	5.684
116.00	.6829	211.88	110.78	5.751
118.00	.7012	219.42	115.62	5.815
120.00	.7193	226.88	120.40	5.878
122.00	.7372	234.28	125.14	5.939
124.00	.7550	241.61	129.83	5.999
126.00	.7727	248.88	134.49	6.057
128.00	.7902	256.10	139.12	6.114
130.00	.8076	263.28	143.72	6.169
132.00	.8248	270.41	148.31	6.224
134.00	.8420	277.52	152.87	6.277
136.00	.8590	284.59	157.42	6.330
138.00	.8759	291.63	161.97	6.381
140.00	.8926	298.66	166.51	6.432
142.00	.9093	305.67	171.05	6.481
144.00	.9259	312.66	175.60	6.530
146.00	.9423	319.65	180.14	6.578
148.00	.9587	326.63	184.70	6.626
150.00	.9750	333.61	189.27	6.673
152.00	.9912	340.59	193.85	6.719
154.00	1.0073	347.57	198.45	6.765
156.00	1.0233	354.56	203.06	6.810
158.00	1.0393	361.56	207.70	6.854
160.00	1.0552	368.56	212.35	6.898
162.00	1.0710	375.58	217.03	6.942
164.00	1.0867	382.62	221.74	6.985
166.00	1.1024	389.67	226.47	7.028
168.00	1.1180	396.74	231.23	7.070
170.00	1.1335	403.82	236.01	7.112
172.00	1.1490	410.93	240.82	7.154
174.00	1.1645	418.06	245.67	7.195
176.00	1.1798	425.20	250.54	7.236
178.00	1.1952	432.37	255.43	7.276
180.00	1.2105	439.56	260.36	7.316
182.00	1.2257	446.75	265.30	7.356
184.00	1.2408	453.94	270.25	7.395
186.00	1.2560	461.16	275.23	7.434
188.00	1.2710	468.41	280.24	7.473
190.00	1.2861	475.68	285.29	7.512
192.00	1.3010	482.98	290.37	7.550
194.00	1.3160	490.30	295.48	7.588
196.00	1.3309	497.65	300.62	7.625
198.00	1.3458	505.03	305.80	7.663
200.00	1.3606	512.44	311.01	7.700
202.00	1.3754	519.87	316.25	7.737
204.00	1.3902	527.33	321.53	7.774
206.00	1.4049	534.82	326.83	7.810
208.00	1.4196	542.33	332.17	7.847
210.00	1.4343	549.87	337.53	7.883
212.00	1.4489	557.43	342.93	7.919
214.00	1.4636	565.02	348.35	7.954
216.00	1.4782	572.63	353.80	7.990
218.00	1.4927	580.26	359.27	8.025
220.00	1.5073	587.91	364.77	8.060
222.00	1.5218	595.59	370.30	8.094
224.00	1.5363	603.28	375.85	8.129
226.00	1.5508	611.00	381.42	8.163
228.00	1.5652	618.74	387.02	8.197
230.00	1.5796	626.50	392.64	8.231
232.00	1.5941	634.27	398.29	8.265
234.00	1.6084	642.07	403.95	8.298
236.00	1.6228	649.88	409.64	8.332
238.00	1.6372	657.71	415.34	8.365
240.00	1.6515	665.56	421.07	8.397
242.00	1.6659	673.43	426.81	8.430
244.00	1.6802	681.31	432.57	8.463
246.00	1.6945	689.20	438.35	8.495
248.00	1.7087	697.11	444.15	8.527
250.00	1.7230	705.04	449.96	8.559
252.00	1.7372	712.98	455.79	8.590
254.00	1.7515	720.93	461.64	8.622
256.00	1.7657	728.89	467.50	8.653
258.00	1.7799	736.87	473.37	8.684
260.00	1.7941	744.86	479.26	8.715

TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)	TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)
262.00	1.8083	752.85	485.16	8.745	402.00	2.7770	1307.51	896.40	10.445
264.00	1.8224	760.86	491.07	8.776	404.00	2.7906	1315.12	902.00	10.464
266.00	1.8366	768.88	496.99	8.806	406.00	2.8042	1322.73	907.58	10.482
268.00	1.8507	776.91	502.93	8.836	408.00	2.8179	1330.32	913.16	10.501
270.00	1.8648	784.94	508.87	8.866	410.00	2.8315	1337.91	918.73	10.520
272.00	1.8789	792.96	514.80	8.896	412.00	2.8451	1345.48	924.29	10.538
274.00	1.8930	800.99	520.74	8.925	414.00	2.8587	1353.05	929.84	10.556
276.00	1.9071	809.02	526.68	8.954	416.00	2.8723	1360.62	935.40	10.575
278.00	1.9212	817.05	532.64	8.983	418.00	2.8859	1368.18	940.94	10.593
280.00	1.9352	825.09	538.60	9.012	420.00	2.8995	1375.73	946.48	10.611
282.00	1.9493	833.14	544.56	9.041	422.00	2.9131	1383.28	952.01	10.629
284.00	1.9633	841.18	550.53	9.069	424.00	2.9267	1390.81	957.53	10.647
286.00	1.9773	849.24	556.51	9.097	426.00	2.9403	1398.34	963.05	10.664
288.00	1.9913	857.29	562.49	9.125	428.00	2.9539	1405.86	968.56	10.682
290.00	2.0053	865.35	568.48	9.153	430.00	2.9675	1413.37	974.05	10.699
292.00	2.0193	873.41	574.47	9.181	432.00	2.9810	1420.87	979.54	10.717
294.00	2.0333	881.47	580.46	9.209	434.00	2.9946	1428.36	985.03	10.734
296.00	2.0472	889.53	586.45	9.236	436.00	3.0082	1435.84	990.50	10.751
298.00	2.0612	897.60	592.45	9.263	438.00	3.0218	1443.32	995.97	10.768
300.00	2.0751	905.66	598.45	9.290	440.00	3.0353	1450.78	1001.43	10.785
302.00	2.0891	913.72	604.45	9.317	442.00	3.0489	1458.24	1006.88	10.802
304.00	2.1030	921.78	610.45	9.343	444.00	3.0625	1465.69	1012.32	10.819
306.00	2.1169	929.84	616.45	9.370	446.00	3.0760	1473.13	1017.75	10.836
308.00	2.1308	937.90	622.46	9.396	448.00	3.0896	1480.56	1023.18	10.852
310.00	2.1447	945.96	628.46	9.422	450.00	3.1031	1487.99	1028.59	10.869
312.00	2.1586	954.02	634.45	9.448	452.00	3.1167	1495.42	1034.02	10.885
314.00	2.1725	962.07	640.45	9.474	454.00	3.1302	1502.84	1039.44	10.902
316.00	2.1863	970.11	646.45	9.499	456.00	3.1437	1510.25	1044.85	10.918
318.00	2.2002	978.16	652.44	9.525	458.00	3.1573	1517.66	1050.25	10.934
320.00	2.2140	986.20	658.42	9.550	460.00	3.1708	1525.05	1055.64	10.950
322.00	2.2279	994.23	664.41	9.575	462.00	3.1843	1532.44	1061.02	10.967
324.00	2.2417	1002.26	670.39	9.600	464.00	3.1979	1539.82	1066.40	10.982
326.00	2.2555	1010.28	676.36	9.624	466.00	3.2114	1547.19	1071.77	10.998
328.00	2.2694	1018.29	682.33	9.649	468.00	3.2249	1554.55	1077.12	11.014
330.00	2.2832	1026.30	688.29	9.673	470.00	3.2385	1561.90	1082.48	11.030
332.00	2.2970	1034.30	694.25	9.697	472.00	3.2520	1569.25	1087.82	11.045
334.00	2.3108	1042.30	700.20	9.721	474.00	3.2655	1576.58	1093.15	11.061
336.00	2.3246	1050.28	706.14	9.745	476.00	3.2790	1583.91	1098.48	11.076
338.00	2.3384	1058.26	712.08	9.769	478.00	3.2925	1591.23	1103.80	11.092
340.00	2.3522	1066.22	718.00	9.793	480.00	3.3060	1598.55	1109.11	11.107
342.00	2.3660	1074.18	723.92	9.816	482.00	3.3195	1605.85	1114.42	11.122
344.00	2.3797	1082.13	729.83	9.839	484.00	3.3331	1613.15	1119.71	11.137
346.00	2.3935	1090.07	735.73	9.862	486.00	3.3466	1620.44	1125.00	11.152
348.00	2.4073	1098.00	741.62	9.885	488.00	3.3601	1627.72	1130.29	11.167
350.00	2.4210	1105.91	747.50	9.908	490.00	3.3736	1635.00	1135.56	11.182
352.00	2.4348	1113.82	753.37	9.930	492.00	3.3871	1642.26	1140.83	11.197
354.00	2.4485	1121.71	759.23	9.952	494.00	3.4006	1649.53	1146.10	11.212
356.00	2.4623	1129.60	765.08	9.975	496.00	3.4141	1656.78	1151.36	11.226
358.00	2.4760	1137.47	770.92	9.997	498.00	3.4276	1664.03	1156.61	11.241
360.00	2.4897	1145.33	776.74	10.019	500.00	3.4411	1671.28	1161.86	11.255
362.00	2.5035	1153.17	782.55	10.040	502.00	3.4545	1678.52	1167.10	11.270
364.00	2.5172	1160.99	788.34	10.062	504.00	3.4680	1685.75	1172.33	11.284
366.00	2.5309	1168.80	794.12	10.083	506.00	3.4815	1692.98	1177.57	11.298
368.00	2.5446	1176.60	799.89	10.105	508.00	3.4950	1700.20	1182.79	11.313
370.00	2.5583	1184.39	805.65	10.126	510.00	3.5085	1707.42	1188.02	11.327
372.00	2.5720	1192.17	811.40	10.147	512.00	3.5220	1714.64	1193.23	11.341
374.00	2.5857	1199.93	817.14	10.167	514.00	3.5355	1721.85	1198.45	11.355
376.00	2.5994	1207.69	822.87	10.188	516.00	3.5490	1729.05	1203.66	11.369
378.00	2.6131	1215.43	828.58	10.209	518.00	3.5624	1736.26	1208.87	11.383
380.00	2.6267	1223.16	834.29	10.229	520.00	3.5759	1743.46	1214.07	11.397
382.00	2.6404	1230.88	839.98	10.249	522.00	3.5894	1750.65	1219.27	11.411
384.00	2.6541	1238.59	845.67	10.269	524.00	3.6029	1757.84	1224.47	11.424
386.00	2.6678	1246.29	851.34	10.289	526.00	3.6163	1765.03	1229.66	11.438
388.00	2.6814	1253.97	857.01	10.309	528.00	3.6298	1772.22	1234.85	11.452
390.00	2.6951	1261.65	862.66	10.329	530.00	3.6433	1779.40	1240.04	11.465
392.00	2.7087	1269.32	868.31	10.349	532.00	3.6568	1786.58	1245.22	11.479
394.00	2.7224	1276.98	873.95	10.368	534.00	3.6702	1793.75	1250.40	11.492
396.00	2.7361	1284.62	879.57	10.387	536.00	3.6837	1800.93	1255.58	11.506
398.00	2.7497	1292.26	885.19	10.407	538.00	3.6972	1808.10	1260.76	11.519
400.00	2.7633	1299.89	890.80	10.426	540.00	3.7106	1815.26	1265.93	11.532

900.00 PSIA ISO8AR

TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)
36.00	.2074	-84.42	-118.96	1.644
38.00	.2097	-80.51	-115.43	1.750
40.00	.2121	-76.40	-111.73	1.855
42.00	.2148	-72.10	-107.87	1.960
44.00	.2176	-67.58	-103.81	2.065
46.00	.2206	-62.84	-99.57	2.170
48.00	.2238	-57.87	-95.13	2.276
50.00	.2272	-52.65	-90.49	2.383
52.00	.2308	-47.19	-85.63	2.490
54.00	.2348	-41.50	-80.60	2.597
56.00	.2390	-35.58	-75.39	2.705
58.00	.2436	-29.36	-69.93	2.814
60.00	.2491	-22.91	-64.40	2.924
62.00	.2544	-16.11	-58.47	3.036
64.00	.2601	-9.02	-52.35	3.149
66.00	.2664	-1.65	-46.02	3.262
68.00	.2732	5.96	-39.55	3.375
70.00	.2807	13.75	-32.99	3.488
72.00	.2888	21.52	-26.57	3.598
74.00	.2976	29.36	-20.21	3.705
76.00	.3073	37.31	-13.86	3.811
78.00	.3177	45.42	-7.49	3.916
80.00	.3289	53.70	-1.09	4.021
82.00	.3410	62.14	5.34	4.125
84.00	.3539	70.72	11.78	4.229
86.00	.3676	79.42	18.20	4.331
88.00	.3819	88.20	24.59	4.432
90.00	.3968	97.01	30.92	4.531
92.00	.4123	105.82	37.16	4.628
94.00	.4281	114.60	43.30	4.722
96.00	.4442	123.31	49.34	4.814
98.00	.4605	131.96	55.26	4.903
100.00	.4770	140.51	61.06	4.990
102.00	.4936	148.96	66.75	5.073
104.00	.5102	157.30	72.33	5.154
106.00	.5268	165.55	77.81	5.233
108.00	.5434	173.68	83.19	5.309
110.00	.5599	181.72	88.47	5.383
112.00	.5764	189.66	93.67	5.454
114.00	.5927	197.52	98.80	5.524
116.00	.6090	205.28	103.85	5.591
118.00	.6252	212.96	108.84	5.657
120.00	.6413	220.57	113.77	5.721
122.00	.6572	228.11	118.65	5.783
124.00	.6731	235.59	123.48	5.844
126.00	.6888	243.00	128.28	5.903
128.00	.7045	250.37	133.04	5.961
130.00	.7200	257.69	137.77	6.018
132.00	.7354	264.96	142.48	6.073
134.00	.7508	272.20	147.16	6.128
136.00	.7660	279.41	151.83	6.181
138.00	.7811	286.59	156.49	6.234
140.00	.7962	293.74	161.14	6.285
142.00	.8111	300.88	165.79	6.336
144.00	.8260	308.00	170.44	6.386
146.00	.8407	315.11	175.08	6.435
148.00	.8554	322.21	179.74	6.483
150.00	.8700	329.30	184.40	6.530
152.00	.8846	336.39	189.07	6.577
154.00	.8990	343.48	193.75	6.624
156.00	.9134	350.58	198.45	6.670
158.00	.9277	357.68	203.17	6.715
160.00	.9420	364.79	207.91	6.760
162.00	.9562	371.91	212.66	6.804
164.00	.9703	379.04	217.44	6.848
166.00	.9843	386.19	222.25	6.891
168.00	.9984	393.35	227.07	6.934
170.00	1.0123	400.52	231.93	6.976
172.00	1.0262	407.72	236.80	7.018
174.00	1.0400	414.93	241.71	7.060
176.00	1.0538	422.16	246.64	7.101
178.00	1.0676	429.40	251.60	7.142
180.00	1.0813	436.67	256.59	7.183
182.00	1.0949	443.94	261.58	7.223
184.00	1.1085	451.19	266.57	7.263
186.00	1.1221	458.47	271.59	7.302
188.00	1.1356	465.78	276.65	7.341
190.00	1.1491	473.11	281.73	7.380
192.00	1.1625	480.47	286.85	7.418
194.00	1.1759	487.85	292.00	7.457
196.00	1.1893	495.26	297.19	7.495
198.00	1.2026	502.70	302.40	7.532
200.00	1.2159	510.16	307.65	7.570
202.00	1.2292	517.65	312.93	7.607
204.00	1.2424	525.17	318.24	7.644
206.00	1.2556	532.71	323.59	7.681
208.00	1.2688	540.27	328.96	7.717
210.00	1.2819	547.87	334.36	7.754
212.00	1.2951	555.48	339.80	7.790
214.00	1.3081	563.12	345.26	7.826
216.00	1.3212	570.79	350.74	7.861
218.00	1.3343	578.47	356.25	7.897
220.00	1.3473	586.17	361.79	7.932
222.00	1.3603	593.90	367.35	7.967
224.00	1.3732	601.64	372.93	8.002
226.00	1.3862	609.41	378.54	8.036
228.00	1.3991	617.19	384.17	8.070
230.00	1.4121	625.00	389.82	8.104
232.00	1.4250	632.82	395.49	8.138
234.00	1.4378	640.65	401.19	8.172
236.00	1.4507	648.51	406.90	8.205
238.00	1.4635	656.38	412.63	8.239
240.00	1.4764	664.27	418.38	8.272
242.00	1.4892	672.17	424.15	8.304
244.00	1.5020	680.09	429.94	8.337
246.00	1.5148	688.02	435.74	8.369
248.00	1.5275	695.97	441.56	8.402
250.00	1.5403	703.93	447.40	8.434
252.00	1.5530	711.90	453.25	8.465
254.00	1.5657	719.88	459.11	8.497
256.00	1.5784	727.88	464.99	8.528
258.00	1.5911	735.89	470.89	8.559
260.00	1.6038	743.91	476.79	8.590

TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)	TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)
262.00	1.6165	751.93	482.71	8.621	402.00	2.4806	1308.17	895.03	10.325
264.00	1.6291	759.97	488.64	8.652	404.00	2.4928	1315.78	900.62	10.344
266.00	1.6418	768.02	494.58	8.682	406.00	2.5049	1323.39	906.20	10.363
268.00	1.6544	776.07	500.54	8.712	408.00	2.5170	1330.99	911.78	10.382
270.00	1.6670	784.14	506.50	8.742	410.00	2.5292	1338.58	917.35	10.400
272.00	1.6796	792.19	512.45	8.772	412.00	2.5413	1346.16	922.91	10.419
274.00	1.6922	800.24	518.40	8.801	414.00	2.5534	1353.74	928.47	10.437
276.00	1.7048	808.30	524.37	8.831	416.00	2.5656	1361.31	934.03	10.455
278.00	1.7174	816.36	530.34	8.860	418.00	2.5777	1368.88	939.58	10.474
280.00	1.7299	824.43	536.31	8.889	420.00	2.5898	1376.45	945.12	10.492
282.00	1.7425	832.50	542.30	8.917	422.00	2.6019	1384.00	950.66	10.510
284.00	1.7550	840.58	548.29	8.946	424.00	2.6140	1391.55	956.19	10.527
286.00	1.7675	848.66	554.28	8.974	426.00	2.6261	1399.09	961.71	10.545
288.00	1.7800	856.74	560.29	9.002	428.00	2.6382	1406.62	967.23	10.563
290.00	1.7925	864.83	566.29	9.030	430.00	2.6503	1414.14	972.74	10.580
292.00	1.8050	872.92	572.30	9.058	432.00	2.6624	1421.65	978.24	10.598
294.00	1.8175	881.01	578.32	9.086	434.00	2.6745	1429.16	983.73	10.615
296.00	1.8299	889.11	584.33	9.113	436.00	2.6866	1436.66	989.21	10.632
298.00	1.8424	897.20	590.35	9.141	438.00	2.6987	1444.15	994.69	10.649
300.00	1.8548	905.29	596.37	9.168	440.00	2.7107	1451.63	1000.16	10.667
302.00	1.8673	913.39	602.40	9.195	442.00	2.7228	1459.10	1005.62	10.683
304.00	1.8797	921.48	608.42	9.221	444.00	2.7349	1466.56	1011.07	10.700
306.00	1.8921	929.58	614.45	9.248	446.00	2.7470	1474.02	1016.52	10.717
308.00	1.9045	937.67	620.47	9.274	448.00	2.7590	1481.46	1021.95	10.734
310.00	1.9169	945.76	626.50	9.300	450.00	2.7711	1488.90	1027.38	10.750
312.00	1.9293	953.84	632.52	9.326	452.00	2.7832	1496.35	1032.82	10.767
314.00	1.9417	961.93	638.54	9.352	454.00	2.7952	1503.78	1038.24	10.783
316.00	1.9541	970.01	644.56	9.378	456.00	2.8073	1511.21	1043.66	10.800
318.00	1.9664	978.09	650.58	9.403	458.00	2.8193	1518.63	1049.07	10.816
320.00	1.9788	986.16	656.59	9.429	460.00	2.8314	1526.04	1054.47	10.832
322.00	1.9911	994.22	662.60	9.454	462.00	2.8434	1533.44	1059.87	10.848
324.00	2.0035	1002.29	668.61	9.479	464.00	2.8555	1540.83	1065.25	10.864
326.00	2.0158	1010.34	674.61	9.503	466.00	2.8675	1548.21	1070.63	10.880
328.00	2.0281	1018.39	680.60	9.528	468.00	2.8796	1555.58	1076.00	10.896
330.00	2.0405	1026.43	686.59	9.552	470.00	2.8916	1562.95	1081.36	10.911
332.00	2.0528	1034.46	692.58	9.577	472.00	2.9037	1570.31	1086.71	10.927
334.00	2.0651	1042.49	698.55	9.601	474.00	2.9157	1577.65	1092.05	10.942
336.00	2.0774	1050.50	704.52	9.625	476.00	2.9277	1584.99	1097.38	10.958
338.00	2.0897	1058.51	710.47	9.649	478.00	2.9398	1592.32	1102.71	10.973
340.00	2.1020	1066.51	716.42	9.672	480.00	2.9518	1599.64	1108.03	10.989
342.00	2.1143	1074.49	722.37	9.696	482.00	2.9638	1606.96	1113.34	11.004
344.00	2.1266	1082.47	728.30	9.719	484.00	2.9758	1614.26	1118.64	11.019
346.00	2.1388	1090.44	734.22	9.742	486.00	2.9879	1621.56	1123.94	11.034
348.00	2.1511	1098.39	740.13	9.765	488.00	2.9999	1628.85	1129.23	11.049
350.00	2.1634	1106.33	746.03	9.788	490.00	3.0119	1636.14	1134.51	11.064
352.00	2.1756	1114.26	751.91	9.810	492.00	3.0239	1643.41	1139.78	11.079
354.00	2.1879	1122.18	757.79	9.833	494.00	3.0360	1650.68	1145.05	11.093
356.00	2.2002	1130.09	763.66	9.855	496.00	3.0480	1657.95	1150.32	11.108
358.00	2.2124	1137.98	769.51	9.877	498.00	3.0600	1665.20	1155.57	11.123
360.00	2.2246	1145.86	775.35	9.899	500.00	3.0720	1672.46	1160.82	11.137
362.00	2.2369	1153.71	781.16	9.921	502.00	3.0840	1679.70	1166.07	11.152
364.00	2.2491	1161.54	786.96	9.942	504.00	3.0960	1686.94	1171.31	11.166
366.00	2.2613	1169.37	792.75	9.964	506.00	3.1080	1694.18	1176.54	11.180
368.00	2.2735	1177.18	798.53	9.985	508.00	3.1200	1701.41	1181.77	11.195
370.00	2.2858	1184.98	804.29	10.006	510.00	3.1320	1708.63	1187.00	11.209
372.00	2.2980	1192.76	810.04	10.027	512.00	3.1440	1715.85	1192.22	11.223
374.00	2.3102	1200.53	815.78	10.048	514.00	3.1560	1723.07	1197.44	11.237
376.00	2.3224	1208.29	821.51	10.069	516.00	3.1680	1730.28	1202.66	11.251
378.00	2.3346	1216.04	827.23	10.089	518.00	3.1800	1737.49	1207.87	11.265
380.00	2.3468	1223.78	832.93	10.110	520.00	3.1920	1744.70	1213.08	11.279
382.00	2.3589	1231.50	838.63	10.130	522.00	3.2040	1751.90	1218.28	11.293
384.00	2.3711	1239.21	844.31	10.150	524.00	3.2160	1759.10	1223.48	11.306
386.00	2.3833	1246.92	849.98	10.170	526.00	3.2280	1766.30	1228.68	11.320
388.00	2.3955	1254.61	855.65	10.190	528.00	3.2400	1773.49	1233.88	11.334
390.00	2.4077	1262.29	861.30	10.210	530.00	3.2520	1780.68	1239.07	11.347
392.00	2.4198	1269.96	866.94	10.229	532.00	3.2640	1787.87	1244.26	11.361
394.00	2.4320	1277.62	872.58	10.249	534.00	3.2759	1795.05	1249.45	11.374
396.00	2.4442	1285.27	878.20	10.268	536.00	3.2879	1802.23	1254.64	11.388
398.00	2.4563	1292.91	883.82	10.287	538.00	3.2999	1809.41	1259.82	11.401
400.00	2.4685	1300.54	889.43	10.306	540.00	3.3119	1816.59	1265.00	11.415

1000.00 PSIA ISOBAR

TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)
36.00	.2060	-81.32	-119.44	1.624
38.00	.2082	-77.46	-115.98	1.728
40.00	.2105	-73.41	-112.36	1.832
42.00	.2130	-69.17	-108.58	1.936
44.00	.2156	-64.72	-104.62	2.039
46.00	.2185	-60.06	-100.48	2.143
48.00	.2215	-55.17	-96.15	2.247
50.00	.2247	-50.05	-91.63	2.351
52.00	.2281	-44.70	-86.91	2.456
54.00	.2317	-39.14	-82.02	2.561
56.00	.2356	-33.37	-76.97	2.666
58.00	.2398	-27.31	-71.69	2.773
60.00	.2448	-21.03	-66.33	2.879
62.00	.2495	-14.45	-60.62	2.988
64.00	.2547	-7.61	-54.74	3.097
66.00	.2602	-.53	-48.68	3.206
68.00	.2662	6.76	-42.50	3.314
70.00	.2727	14.20	-36.26	3.422
72.00	.2796	21.57	-30.18	3.525
74.00	.2872	28.96	-24.18	3.627
76.00	.2953	36.44	-18.20	3.726
78.00	.3040	44.04	-12.22	3.825
80.00	.3133	51.78	-6.20	3.923
82.00	.3233	59.68	-.15	4.021
84.00	.3339	67.73	5.94	4.118
86.00	.3451	75.91	12.04	4.214
88.00	.3569	84.20	18.15	4.309
90.00	.3693	92.58	24.25	4.403
92.00	.3821	101.01	30.31	4.496
94.00	.3953	109.47	36.32	4.587
96.00	.4088	117.93	42.27	4.676
98.00	.4227	126.37	48.15	4.763
100.00	.4368	134.77	53.95	4.848
102.00	.4510	143.12	59.67	4.931
104.00	.4654	151.41	65.29	5.011
106.00	.4798	159.63	70.84	5.089
108.00	.4943	167.77	76.30	5.165
110.00	.5088	175.83	81.67	5.239
112.00	.5233	183.82	86.98	5.311
114.00	.5378	191.73	92.21	5.381
116.00	.5523	199.57	97.37	5.450
118.00	.5667	207.34	102.48	5.516
120.00	.5810	215.04	107.52	5.581
122.00	.5953	222.68	112.52	5.644
124.00	.6095	230.26	117.47	5.705
126.00	.6236	237.78	122.38	5.766
128.00	.6377	245.26	127.25	5.824
130.00	.6517	252.69	132.09	5.882
132.00	.6656	260.07	136.91	5.938
134.00	.6794	267.42	141.70	5.994
136.00	.6931	274.74	146.47	6.048
138.00	.7068	282.03	151.23	6.101
140.00	.7204	289.29	155.98	6.153
142.00	.7339	296.53	160.73	6.205
144.00	.7473	303.76	165.47	6.255
146.00	.7607	310.97	170.20	6.305
148.00	.7740	318.17	174.95	6.354
150.00	.7872	325.37	179.69	6.402
152.00	.8004	332.56	184.45	6.450
154.00	.8135	339.75	189.21	6.497
156.00	.8265	346.94	193.99	6.543
158.00	.8395	354.13	198.78	6.589
160.00	.8524	361.33	203.59	6.634
162.00	.8652	368.54	208.42	6.679
164.00	.8781	375.76	213.27	6.723
166.00	.8908	382.99	218.14	6.767
168.00	.9035	390.23	223.04	6.811
170.00	.9161	397.49	227.95	6.854
172.00	.9287	404.76	232.90	6.896
174.00	.9413	412.05	237.86	6.938
176.00	.9538	419.36	242.85	6.980
178.00	.9663	426.68	247.87	7.021
180.00	.9787	434.02	252.91	7.062
182.00	.9911	441.35	257.96	7.103
184.00	1.0034	448.68	263.00	7.143
186.00	1.0157	456.03	268.08	7.183
188.00	1.0279	463.40	273.18	7.222
190.00	1.0401	470.80	278.32	7.261
192.00	1.0523	478.22	283.49	7.300
194.00	1.0645	485.67	288.69	7.339
196.00	1.0766	493.14	293.91	7.377
198.00	1.0887	500.64	299.18	7.415
200.00	1.1007	508.16	304.47	7.453
202.00	1.1127	515.70	309.79	7.490
204.00	1.1247	523.27	315.14	7.528
206.00	1.1367	530.87	320.52	7.565
208.00	1.1486	538.49	325.93	7.601
210.00	1.1605	546.13	331.37	7.638
212.00	1.1724	553.80	336.84	7.674
214.00	1.1843	561.48	342.33	7.710
216.00	1.1961	569.19	347.85	7.746
218.00	1.2079	576.92	353.39	7.782
220.00	1.2197	584.67	358.96	7.817
222.00	1.2315	592.44	364.55	7.852
224.00	1.2432	600.23	370.16	7.887
226.00	1.2550	608.03	375.80	7.922
228.00	1.2667	615.86	381.46	7.957
230.00	1.2784	623.71	387.14	7.991
232.00	1.2900	631.57	392.84	8.025
234.00	1.3017	639.45	398.57	8.059
236.00	1.3133	647.35	404.31	8.092
238.00	1.3250	655.26	410.07	8.126
240.00	1.3366	663.19	415.85	8.159
242.00	1.3482	671.13	421.65	8.192
244.00	1.3597	679.09	427.47	8.225
246.00	1.3713	687.06	433.30	8.257
248.00	1.3829	695.05	439.15	8.289
250.00	1.3944	703.05	445.01	8.322
252.00	1.4059	711.06	450.89	8.354
254.00	1.4174	719.09	456.79	8.385
256.00	1.4289	727.12	462.70	8.417
258.00	1.4404	735.17	468.62	8.448
260.00	1.4519	743.23	474.55	8.479

TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)	TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)
262.00	1.4633	751.29	480.50	8.510	402.00	2.2436	1308.93	893.75	10.219
264.00	1.4748	759.37	486.46	8.541	404.00	2.2545	1316.57	899.36	10.238
266.00	1.4862	767.45	492.43	8.571	406.00	2.2655	1324.20	904.96	10.257
268.00	1.4976	775.55	498.41	8.602	408.00	2.2764	1331.82	910.56	10.275
270.00	1.5090	783.65	504.40	8.632	410.00	2.2874	1339.43	916.15	10.294
272.00	1.5204	791.73	510.37	8.662	412.00	2.2983	1347.04	921.73	10.312
274.00	1.5318	799.82	516.35	8.691	414.00	2.3093	1354.64	927.30	10.331
276.00	1.5432	807.91	522.34	8.721	416.00	2.3202	1362.23	932.87	10.349
278.00	1.5545	816.01	528.33	8.750	418.00	2.3311	1369.82	938.44	10.367
280.00	1.5659	824.11	534.33	8.779	420.00	2.3420	1377.40	943.99	10.385
282.00	1.5772	832.21	540.34	8.808	422.00	2.3530	1384.97	949.54	10.403
284.00	1.5886	840.32	546.35	8.836	424.00	2.3639	1392.53	955.08	10.421
286.00	1.5999	848.43	552.37	8.865	426.00	2.3748	1400.08	960.62	10.439
288.00	1.6112	856.54	558.39	8.893	428.00	2.3857	1407.62	966.14	10.457
290.00	1.6225	864.65	564.41	8.921	430.00	2.3966	1415.16	971.66	10.474
292.00	1.6338	872.77	570.44	8.949	432.00	2.4075	1422.69	977.17	10.492
294.00	1.6450	880.88	576.47	8.977	434.00	2.4184	1430.20	982.67	10.509
296.00	1.6563	889.00	582.50	9.004	436.00	2.4293	1437.71	988.16	10.526
298.00	1.6675	897.12	588.53	9.032	438.00	2.4402	1445.21	993.64	10.544
300.00	1.6788	905.23	594.57	9.059	440.00	2.4511	1452.70	999.12	10.561
302.00	1.6900	913.34	600.60	9.086	442.00	2.4620	1460.19	1004.58	10.578
304.00	1.7012	921.46	606.64	9.112	444.00	2.4729	1467.66	1010.04	10.594
306.00	1.7125	929.57	612.67	9.139	446.00	2.4838	1475.12	1015.49	10.611
308.00	1.7237	937.67	618.70	9.165	448.00	2.4947	1482.58	1020.94	10.628
310.00	1.7349	945.78	624.74	9.192	450.00	2.5055	1490.02	1026.37	10.645
312.00	1.7461	953.88	630.77	9.218	452.00	2.5164	1497.48	1031.81	10.661
314.00	1.7572	961.98	636.80	9.244	454.00	2.5273	1504.92	1037.24	10.677
316.00	1.7684	970.07	642.82	9.269	456.00	2.5382	1512.36	1042.67	10.694
318.00	1.7796	978.16	648.84	9.295	458.00	2.5490	1519.79	1048.08	10.710
320.00	1.7907	986.24	654.86	9.320	460.00	2.5599	1527.21	1053.49	10.726
322.00	1.8019	994.32	660.87	9.345	462.00	2.5707	1534.62	1058.89	10.742
324.00	1.8130	1002.39	666.88	9.370	464.00	2.5816	1542.02	1064.28	10.758
326.00	1.8242	1010.45	672.88	9.395	466.00	2.5925	1549.41	1069.66	10.774
328.00	1.8353	1018.50	678.88	9.420	468.00	2.6033	1556.79	1075.04	10.790
330.00	1.8464	1026.55	684.87	9.444	470.00	2.6142	1564.16	1080.40	10.806
332.00	1.8575	1034.59	690.85	9.468	472.00	2.6250	1571.53	1085.76	10.821
334.00	1.8687	1042.63	696.83	9.493	474.00	2.6359	1578.89	1091.11	10.837
336.00	1.8798	1050.65	702.79	9.517	476.00	2.6467	1586.23	1096.45	10.852
338.00	1.8909	1058.66	708.75	9.540	478.00	2.6576	1593.57	1101.78	10.868
340.00	1.9020	1066.67	714.70	9.564	480.00	2.6684	1600.91	1107.11	10.883
342.00	1.9131	1074.66	720.65	9.587	482.00	2.6793	1608.23	1112.43	10.898
344.00	1.9241	1082.65	726.58	9.611	484.00	2.6901	1615.55	1117.74	10.913
346.00	1.9352	1090.62	732.50	9.634	486.00	2.7009	1622.86	1123.04	10.929
348.00	1.9463	1098.58	738.42	9.657	488.00	2.7118	1630.16	1128.34	10.944
350.00	1.9574	1106.54	744.32	9.679	490.00	2.7226	1637.45	1133.63	10.958
352.00	1.9684	1114.48	750.21	9.702	492.00	2.7334	1644.74	1138.91	10.973
354.00	1.9795	1122.40	756.09	9.725	494.00	2.7443	1652.02	1144.19	10.988
356.00	1.9905	1130.32	761.96	9.747	496.00	2.7551	1659.29	1149.46	11.003
358.00	2.0016	1138.23	767.82	9.769	498.00	2.7659	1666.56	1154.72	11.017
360.00	2.0126	1146.12	773.67	9.791	500.00	2.7767	1673.82	1159.98	11.032
362.00	2.0237	1153.99	779.50	9.813	502.00	2.7876	1681.08	1165.23	11.046
364.00	2.0347	1161.84	785.31	9.834	504.00	2.7984	1688.33	1170.48	11.061
366.00	2.0457	1169.69	791.12	9.856	506.00	2.8092	1695.57	1175.72	11.075
368.00	2.0568	1177.52	796.91	9.877	508.00	2.8200	1702.81	1180.96	11.089
370.00	2.0678	1185.34	802.69	9.898	510.00	2.8308	1710.05	1186.19	11.104
372.00	2.0788	1193.15	808.46	9.919	512.00	2.8417	1717.28	1191.42	11.118
374.00	2.0898	1200.94	814.22	9.940	514.00	2.8525	1724.51	1196.65	11.132
376.00	2.1008	1208.73	819.96	9.961	516.00	2.8633	1731.73	1201.87	11.146
378.00	2.1118	1216.50	825.70	9.982	518.00	2.8741	1738.95	1207.09	11.160
380.00	2.1228	1224.26	831.42	10.002	520.00	2.8849	1746.16	1212.30	11.174
382.00	2.1338	1232.01	837.14	10.023	522.00	2.8957	1753.37	1217.51	11.188
384.00	2.1448	1239.75	842.84	10.043	524.00	2.9065	1760.58	1222.72	11.201
386.00	2.1558	1247.48	848.54	10.063	526.00	2.9173	1767.78	1227.92	11.215
388.00	2.1668	1255.19	854.22	10.083	528.00	2.9281	1774.98	1233.12	11.229
390.00	2.1778	1262.90	859.90	10.103	530.00	2.9389	1782.18	1238.32	11.242
392.00	2.1887	1270.60	865.56	10.122	532.00	2.9497	1789.37	1243.52	11.256
394.00	2.1997	1278.28	871.22	10.142	534.00	2.9605	1796.56	1248.71	11.269
396.00	2.2107	1285.96	876.86	10.161	536.00	2.9713	1803.75	1253.90	11.283
398.00	2.2217	1293.63	882.50	10.181	538.00	2.9821	1810.93	1259.08	11.296
400.00	2.2326	1301.28	888.13	10.200	540.00	2.9929	1818.11	1264.27	11.310

1250.00 PSIA ISOBAR

TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)	TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)
					122.00	.4900	212.22	98.88	5.354
					124.00	.5010	219.89	104.01	5.416
					126.00	.5120	227.53	109.10	5.478
					128.00	.5230	235.14	114.17	5.537
					130.00	.5339	242.71	119.21	5.596
					132.00	.5449	250.26	124.22	5.654
					134.00	.5558	257.77	129.21	5.710
					136.00	.5667	265.26	134.18	5.766
					138.00	.5775	272.72	139.13	5.820
					140.00	.5883	280.17	144.08	5.874
					142.00	.5991	287.59	149.01	5.926
					144.00	.6099	295.00	153.94	5.978
					146.00	.6205	302.40	158.86	6.029
					148.00	.6312	309.79	163.78	6.079
					150.00	.6418	317.17	168.71	6.129
					152.00	.6524	324.54	173.64	6.178
					154.00	.6629	331.92	178.57	6.226
					156.00	.6734	339.29	183.52	6.274
					158.00	.6839	346.66	188.48	6.321
					160.00	.6943	354.04	193.45	6.367
					162.00	.7046	361.43	198.43	6.413
					164.00	.7150	368.82	203.44	6.458
					166.00	.7253	376.22	208.46	6.503
					168.00	.7355	383.63	213.50	6.547
					170.00	.7458	391.06	218.55	6.591
					172.00	.7559	398.50	223.64	6.635
					174.00	.7661	405.95	228.74	6.678
36.00	.2028	-73.55	-120.45	1.577	176.00	.7762	413.41	233.86	6.721
38.00	.2047	-69.79	-117.15	1.679	178.00	.7863	420.89	239.01	6.763
40.00	.2068	-65.86	-113.70	1.780	180.00	.7963	428.38	244.17	6.805
42.00	.2090	-61.75	-110.11	1.880	182.00	.8064	435.87	249.35	6.846
44.00	.2114	-57.45	-106.35	1.980	184.00	.8163	443.37	254.53	6.887
46.00	.2139	-52.95	-102.42	2.080	186.00	.8263	450.88	259.74	6.928
48.00	.2165	-48.25	-98.32	2.180	188.00	.8362	458.41	264.98	6.968
50.00	.2193	-43.33	-94.05	2.280	190.00	.8461	465.96	270.24	7.008
52.00	.2222	-38.20	-89.60	2.381	192.00	.8560	473.53	275.53	7.048
54.00	.2253	-32.89	-85.00	2.481	194.00	.8658	481.12	280.84	7.087
56.00	.2285	-27.40	-80.26	2.581	196.00	.8756	488.73	286.18	7.126
58.00	.2320	-21.65	-75.32	2.682	198.00	.8854	496.35	291.54	7.165
60.00	.2360	-15.68	-70.26	2.783	200.00	.8952	504.00	296.93	7.203
62.00	.2398	-9.50	-64.97	2.885	202.00	.9049	511.67	302.34	7.241
64.00	.2439	-3.11	-59.53	2.987	204.00	.9146	519.35	307.78	7.279
66.00	.2483	3.48	-53.95	3.088	206.00	.9243	527.05	313.24	7.317
68.00	.2529	10.21	-48.29	3.188	208.00	.9340	534.78	318.73	7.354
70.00	.2578	17.04	-42.60	3.287	210.00	.9436	542.52	324.24	7.391
72.00	.2631	23.75	-37.10	3.382	212.00	.9533	550.29	329.78	7.428
74.00	.2686	30.42	-31.71	3.473	214.00	.9629	558.07	335.34	7.464
76.00	.2745	37.12	-26.37	3.562	216.00	.9725	565.87	340.93	7.501
78.00	.2807	43.89	-21.04	3.650	218.00	.9820	573.69	346.53	7.537
80.00	.2873	50.76	-15.69	3.737	220.00	.9916	581.52	352.16	7.572
82.00	.2942	57.76	-10.30	3.824	222.00	1.0011	589.37	357.81	7.608
84.00	.3015	64.88	-4.87	3.910	224.00	1.0106	597.25	363.48	7.643
86.00	.3092	72.13	.61	3.995	226.00	1.0201	605.14	369.17	7.678
88.00	.3172	79.52	6.13	4.080	228.00	1.0296	613.05	374.89	7.713
90.00	.3256	87.02	11.69	4.164	230.00	1.0390	620.97	380.63	7.748
92.00	.3344	94.63	17.28	4.248	232.00	1.0485	628.92	386.39	7.782
94.00	.3434	102.33	22.89	4.330	234.00	1.0579	636.88	392.17	7.816
96.00	.3528	110.10	28.50	4.412	236.00	1.0673	644.86	397.97	7.850
98.00	.3624	117.94	34.11	4.493	238.00	1.0767	652.85	403.79	7.884
100.00	.3723	125.82	39.70	4.573	240.00	1.0861	660.86	409.63	7.917
102.00	.3824	133.73	45.28	4.651	242.00	1.0955	668.89	415.49	7.951
104.00	.3927	141.65	50.82	4.728	244.00	1.1049	676.93	421.36	7.984
106.00	.4031	149.58	56.33	4.803	246.00	1.1142	684.99	427.26	8.017
108.00	.4137	157.50	61.80	4.877	248.00	1.1235	693.06	433.17	8.049
110.00	.4244	165.41	67.23	4.950	250.00	1.1329	701.15	439.10	8.082
112.00	.4352	173.29	72.61	5.021	252.00	1.1422	709.24	445.04	8.114
114.00	.4461	181.14	77.95	5.091	254.00	1.1515	717.35	451.00	8.146
116.00	.4570	188.96	83.25	5.159	256.00	1.1608	725.48	456.97	8.178
118.00	.4680	196.75	88.50	5.225	258.00	1.1701	733.61	462.96	8.210
120.00	.4790	204.50	93.71	5.290	260.00	1.1793	741.75	468.96	8.241

TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)	TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)
262.00	1.1886	749.91	474.97	8.272	402.00	1.8172	1310.86	890.51	9.992
264.00	1.1978	758.07	480.99	8.303	404.00	1.8260	1318.56	896.16	10.011
266.00	1.2071	766.24	487.02	8.334	406.00	1.8348	1326.24	901.81	10.030
268.00	1.2163	774.41	493.07	8.365	408.00	1.8436	1333.91	907.45	10.049
270.00	1.2255	782.60	499.12	8.395	410.00	1.8524	1341.58	913.08	10.067
272.00	1.2347	790.76	505.16	8.425	412.00	1.8612	1349.23	918.70	10.086
274.00	1.2439	798.93	511.20	8.455	414.00	1.8700	1356.87	924.31	10.104
276.00	1.2531	807.10	517.25	8.485	416.00	1.8788	1364.51	929.91	10.123
278.00	1.2623	815.28	523.30	8.515	418.00	1.8876	1372.13	935.50	10.141
280.00	1.2714	823.46	529.36	8.544	420.00	1.8964	1379.75	941.09	10.159
282.00	1.2806	831.64	535.42	8.573	422.00	1.9051	1387.35	946.66	10.177
284.00	1.2897	839.81	541.48	8.602	424.00	1.9139	1394.95	952.23	10.195
286.00	1.2989	847.99	547.55	8.631	426.00	1.9227	1402.53	957.78	10.213
288.00	1.3080	856.17	553.62	8.659	428.00	1.9315	1410.11	963.33	10.231
290.00	1.3171	864.35	559.69	8.687	430.00	1.9402	1417.67	968.87	10.248
292.00	1.3262	872.53	565.76	8.716	432.00	1.9490	1425.23	974.40	10.266
294.00	1.3353	880.71	571.83	8.743	434.00	1.9577	1432.77	979.91	10.283
296.00	1.3444	888.88	577.90	8.771	436.00	1.9665	1440.31	985.42	10.301
298.00	1.3535	897.05	583.97	8.799	438.00	1.9752	1447.83	990.92	10.318
300.00	1.3625	905.22	590.04	8.826	440.00	1.9840	1455.35	996.42	10.335
302.00	1.3716	913.38	596.10	8.853	442.00	1.9927	1462.85	1001.90	10.352
304.00	1.3807	921.54	602.17	8.880	444.00	2.0015	1470.35	1007.37	10.369
306.00	1.3897	929.69	608.23	8.907	446.00	2.0102	1477.83	1012.84	10.386
308.00	1.3988	937.84	614.28	8.933	448.00	2.0190	1485.31	1018.29	10.403
310.00	1.4078	945.98	620.34	8.960	450.00	2.0277	1492.78	1023.74	10.419
312.00	1.4168	954.12	626.39	8.986	452.00	2.0364	1500.26	1029.20	10.436
314.00	1.4258	962.25	632.43	9.012	454.00	2.0452	1507.72	1034.64	10.452
316.00	1.4348	970.37	638.47	9.038	456.00	2.0539	1515.18	1040.08	10.469
318.00	1.4438	978.49	644.51	9.063	458.00	2.0626	1522.63	1045.51	10.485
320.00	1.4528	986.60	650.53	9.089	460.00	2.0713	1530.07	1050.93	10.501
322.00	1.4618	994.70	656.56	9.114	462.00	2.0801	1537.50	1056.34	10.517
324.00	1.4708	1002.79	662.57	9.139	464.00	2.0888	1544.92	1061.75	10.533
326.00	1.4798	1010.88	668.58	9.164	466.00	2.0975	1552.33	1067.14	10.549
328.00	1.4887	1018.95	674.58	9.188	468.00	2.1062	1559.73	1072.53	10.565
330.00	1.4977	1027.02	680.58	9.213	470.00	2.1149	1567.13	1077.91	10.581
332.00	1.5067	1035.08	686.57	9.237	472.00	2.1236	1574.52	1083.28	10.597
334.00	1.5156	1043.13	692.55	9.261	474.00	2.1324	1581.90	1088.65	10.612
336.00	1.5246	1051.17	698.52	9.285	476.00	2.1411	1589.27	1094.01	10.628
338.00	1.5335	1059.20	704.48	9.309	478.00	2.1498	1596.63	1099.36	10.643
340.00	1.5424	1067.23	710.44	9.333	480.00	2.1585	1603.99	1104.70	10.658
342.00	1.5514	1075.24	716.39	9.356	482.00	2.1672	1611.33	1110.03	10.674
344.00	1.5603	1083.24	722.32	9.380	484.00	2.1759	1618.67	1115.36	10.689
346.00	1.5692	1091.23	728.25	9.403	486.00	2.1846	1626.01	1120.68	10.704
348.00	1.5781	1099.22	734.17	9.426	488.00	2.1933	1633.33	1125.99	10.719
350.00	1.5870	1107.19	740.09	9.449	490.00	2.2020	1640.65	1131.30	10.734
352.00	1.5959	1115.15	745.99	9.472	492.00	2.2107	1647.96	1136.60	10.749
354.00	1.6048	1123.10	751.88	9.494	494.00	2.2193	1655.27	1141.90	10.764
356.00	1.6137	1131.05	757.77	9.516	496.00	2.2280	1662.57	1147.19	10.779
358.00	1.6226	1138.98	763.64	9.539	498.00	2.2367	1669.86	1152.47	10.793
360.00	1.6315	1146.90	769.51	9.561	500.00	2.2454	1677.14	1157.75	10.808
362.00	1.6404	1154.81	775.37	9.583	502.00	2.2541	1684.42	1163.02	10.822
364.00	1.6493	1162.71	781.21	9.604	504.00	2.2628	1691.70	1168.28	10.837
366.00	1.6581	1170.60	787.05	9.626	506.00	2.2715	1698.97	1173.54	10.851
368.00	1.6670	1178.48	792.88	9.647	508.00	2.2801	1706.23	1178.80	10.866
370.00	1.6759	1186.35	798.70	9.669	510.00	2.2888	1713.49	1184.05	10.880
372.00	1.6847	1194.21	804.51	9.690	512.00	2.2975	1720.74	1189.30	10.894
374.00	1.6936	1202.06	810.31	9.711	514.00	2.3062	1727.99	1194.54	10.908
376.00	1.7024	1209.90	816.10	9.732	516.00	2.3148	1735.23	1199.77	10.922
378.00	1.7113	1217.73	821.88	9.753	518.00	2.3235	1742.47	1205.01	10.936
380.00	1.7201	1225.55	827.65	9.773	520.00	2.3322	1749.71	1210.23	10.950
382.00	1.7290	1233.35	833.41	9.794	522.00	2.3408	1756.93	1215.46	10.964
384.00	1.7378	1241.15	839.17	9.814	524.00	2.3495	1764.16	1220.68	10.978
386.00	1.7467	1248.94	844.91	9.834	526.00	2.3582	1771.38	1225.90	10.992
388.00	1.7555	1256.71	850.64	9.854	528.00	2.3668	1778.60	1231.11	11.005
390.00	1.7643	1264.48	856.37	9.874	530.00	2.3755	1785.81	1236.32	11.019
392.00	1.7731	1272.24	862.08	9.894	532.00	2.3842	1793.02	1241.52	11.032
394.00	1.7820	1279.98	867.78	9.914	534.00	2.3928	1800.22	1246.72	11.046
396.00	1.7908	1287.72	873.48	9.934	536.00	2.4015	1807.42	1251.92	11.059
398.00	1.7996	1295.44	879.16	9.953	538.00	2.4101	1814.62	1257.11	11.073
400.00	1.8084	1303.16	884.84	9.972	540.00	2.4188	1821.81	1262.31	11.086

1500.00 PSIA ISOBAR

TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)
36.00	.1999	-65.76	-121.25	1.535
38.00	.2017	-62.09	-118.08	1.634
40.00	.2036	-58.26	-114.78	1.732
42.00	.2056	-54.26	-111.33	1.830
44.00	.2077	-50.08	-107.73	1.927
46.00	.2099	-45.71	-103.98	2.024
48.00	.2123	-41.14	-100.06	2.121
50.00	.2147	-36.38	-95.98	2.219
52.00	.2173	-31.42	-91.74	2.316
54.00	.2200	-26.30	-87.36	2.412
56.00	.2228	-21.00	-82.86	2.509
58.00	.2258	-15.48	-78.16	2.606
60.00	.2291	-9.71	-73.30	2.703
62.00	.2323	-3.81	-68.31	2.801
64.00	.2358	2.27	-63.18	2.898
66.00	.2394	8.52	-57.93	2.994
68.00	.2432	14.89	-52.62	3.088
70.00	.2472	21.33	-47.30	3.182
72.00	.2515	27.62	-42.18	3.270
74.00	.2559	33.84	-37.19	3.356
76.00	.2606	40.07	-32.26	3.439
78.00	.2654	46.33	-27.35	3.520
80.00	.2705	52.67	-22.42	3.600
82.00	.2759	59.12	-17.47	3.680
84.00	.2815	65.67	-12.47	3.759
86.00	.2873	72.34	-7.42	3.837
88.00	.2934	79.13	-2.31	3.915
90.00	.2997	86.03	2.84	3.993
92.00	.3063	93.05	8.05	4.070
94.00	.3130	100.18	13.29	4.147
96.00	.3200	107.41	18.57	4.223
98.00	.3272	114.72	23.88	4.298
100.00	.3347	122.10	29.21	4.373
102.00	.3423	129.56	34.55	4.446
104.00	.3500	137.06	39.90	4.519
106.00	.3580	144.61	45.25	4.591
108.00	.3660	152.20	50.60	4.662
110.00	.3742	159.81	55.93	4.732
112.00	.3826	167.44	61.25	4.801
114.00	.3910	175.08	66.55	4.868
116.00	.3995	182.72	71.83	4.935
118.00	.4081	190.36	77.09	5.000
120.00	.4167	198.00	82.33	5.064
122.00	.4254	205.63	87.54	5.127
124.00	.4342	213.25	92.74	5.189
126.00	.4429	220.85	97.91	5.250
128.00	.4517	228.45	103.06	5.310
130.00	.4605	236.03	108.19	5.369
132.00	.4694	243.59	113.30	5.426
134.00	.4782	251.14	118.40	5.483
136.00	.4871	258.68	123.48	5.539
138.00	.4959	266.20	128.56	5.594
140.00	.5047	273.72	133.62	5.648
142.00	.5135	281.22	138.68	5.701
144.00	.5223	288.72	143.73	5.754
146.00	.5311	296.21	148.78	5.805
148.00	.5399	303.69	153.83	5.856
150.00	.5487	311.18	158.88	5.906
152.00	.5574	318.66	163.93	5.956
154.00	.5661	326.14	169.00	6.005
156.00	.5748	333.62	174.07	6.053
158.00	.5835	341.11	179.15	6.101
160.00	.5921	348.61	184.24	6.148
162.00	.6007	356.11	189.35	6.195
164.00	.6093	363.62	194.47	6.241
166.00	.6179	371.13	199.61	6.286
168.00	.6265	378.66	204.77	6.331
170.00	.6350	386.20	209.94	6.376
172.00	.6435	393.76	215.13	6.420
174.00	.6520	401.32	220.35	6.464
176.00	.6604	408.90	225.58	6.507
178.00	.6689	416.50	230.83	6.550
180.00	.6773	424.10	236.11	6.593
182.00	.6857	431.71	241.39	6.635
184.00	.6940	439.33	246.68	6.676
186.00	.7024	446.96	252.00	6.717
188.00	.7107	454.61	257.34	6.758
190.00	.7190	462.27	262.70	6.799
192.00	.7273	469.96	268.08	6.839
194.00	.7355	477.66	273.49	6.879
196.00	.7438	485.37	278.92	6.919
198.00	.7520	493.10	284.37	6.958
200.00	.7602	500.85	289.85	6.997
202.00	.7683	508.62	295.34	7.035
204.00	.7765	516.40	300.86	7.074
206.00	.7846	524.20	306.40	7.112
208.00	.7927	532.01	311.96	7.150
210.00	.8008	539.85	317.55	7.187
212.00	.8089	547.70	323.15	7.224
214.00	.8170	555.56	328.78	7.261
216.00	.8250	563.45	334.43	7.298
218.00	.8331	571.34	340.10	7.334
220.00	.8411	579.26	345.79	7.370
222.00	.8491	587.19	351.50	7.406
224.00	.8571	595.13	357.23	7.442
226.00	.8650	603.10	362.98	7.477
228.00	.8730	611.08	368.75	7.512
230.00	.8809	619.08	374.54	7.547
232.00	.8889	627.09	380.36	7.582
234.00	.8968	635.12	386.19	7.617
236.00	.9047	643.17	392.05	7.651
238.00	.9126	651.23	397.92	7.685
240.00	.9205	659.31	403.81	7.719
242.00	.9283	667.41	409.72	7.752
244.00	.9362	675.52	415.65	7.786
246.00	.9440	683.64	421.60	7.819
248.00	.9519	691.78	427.56	7.852
250.00	.9597	699.93	433.54	7.884
252.00	.9675	708.09	439.54	7.917
254.00	.9753	716.27	445.55	7.949
256.00	.9831	724.46	451.57	7.981
258.00	.9909	732.66	457.61	8.013
260.00	.9987	740.87	463.66	8.045

TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)	TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)
262.00	1.0064	749.09	469.72	8.076	402.00	1.5333	1313.19	887.56	9.806
264.00	1.0142	757.32	475.80	8.108	404.00	1.5407	1320.91	893.24	9.825
266.00	1.0219	765.55	481.88	8.139	406.00	1.5481	1328.62	898.91	9.844
268.00	1.0297	773.80	487.98	8.170	408.00	1.5554	1336.32	904.57	9.863
270.00	1.0374	782.05	494.08	8.200	410.00	1.5628	1344.02	910.21	9.882
272.00	1.0451	790.28	500.17	8.231	412.00	1.5702	1351.70	915.85	9.900
274.00	1.0529	798.51	506.26	8.261	414.00	1.5775	1359.37	921.48	9.919
276.00	1.0606	806.75	512.36	8.291	416.00	1.5849	1367.03	927.10	9.937
278.00	1.0683	814.99	518.46	8.321	418.00	1.5922	1374.68	932.71	9.956
280.00	1.0760	823.23	524.56	8.350	420.00	1.5996	1382.32	938.31	9.974
282.00	1.0837	831.47	530.67	8.379	422.00	1.6069	1389.95	943.91	9.992
284.00	1.0913	839.72	536.78	8.409	424.00	1.6142	1397.57	949.49	10.010
286.00	1.0990	847.96	542.90	8.438	426.00	1.6216	1405.17	955.06	10.028
288.00	1.1067	856.20	549.01	8.466	428.00	1.6289	1412.77	960.62	10.046
290.00	1.1143	864.44	555.13	8.495	430.00	1.6362	1420.36	966.18	10.063
292.00	1.1220	872.68	561.24	8.523	432.00	1.6435	1427.94	971.72	10.081
294.00	1.1296	880.91	567.36	8.551	434.00	1.6509	1435.50	977.26	10.098
296.00	1.1372	889.14	573.47	8.579	436.00	1.6582	1443.06	982.78	10.116
298.00	1.1449	897.37	579.58	8.607	438.00	1.6655	1450.61	988.30	10.133
300.00	1.1525	905.60	585.69	8.634	440.00	1.6728	1458.15	993.81	10.150
302.00	1.1601	913.81	591.80	8.662	442.00	1.6801	1465.68	999.30	10.167
304.00	1.1677	922.03	597.90	8.689	444.00	1.6874	1473.19	1004.79	10.184
306.00	1.1753	930.24	604.00	8.716	446.00	1.6948	1480.70	1010.27	10.201
308.00	1.1829	938.44	610.10	8.742	448.00	1.7021	1488.20	1015.75	10.218
310.00	1.1904	946.63	616.19	8.769	450.00	1.7094	1495.69	1021.21	10.235
312.00	1.1980	954.82	622.28	8.795	452.00	1.7167	1503.19	1026.68	10.251
314.00	1.2056	963.00	628.36	8.821	454.00	1.7240	1510.68	1032.14	10.268
316.00	1.2131	971.17	634.43	8.847	456.00	1.7313	1518.16	1037.59	10.284
318.00	1.2207	979.33	640.50	8.873	458.00	1.7386	1525.62	1043.04	10.301
320.00	1.2282	987.49	646.56	8.899	460.00	1.7458	1533.09	1048.48	10.317
322.00	1.2358	995.64	652.61	8.924	462.00	1.7531	1540.54	1053.90	10.333
324.00	1.2433	1003.77	658.66	8.949	464.00	1.7604	1547.98	1059.32	10.349
326.00	1.2508	1011.90	664.70	8.974	466.00	1.7677	1555.42	1064.74	10.365
328.00	1.2583	1020.02	670.73	8.999	468.00	1.7750	1562.84	1070.14	10.381
330.00	1.2658	1028.13	676.76	9.024	470.00	1.7823	1570.26	1075.54	10.397
332.00	1.2734	1036.23	682.77	9.048	472.00	1.7896	1577.67	1080.92	10.412
334.00	1.2808	1044.32	688.78	9.072	474.00	1.7968	1585.07	1086.30	10.428
336.00	1.2883	1052.40	694.78	9.097	476.00	1.8041	1592.46	1091.68	10.444
338.00	1.2958	1060.47	700.77	9.120	478.00	1.8114	1599.85	1097.04	10.459
340.00	1.3033	1068.53	706.76	9.144	480.00	1.8187	1607.22	1102.40	10.475
342.00	1.3108	1076.58	712.73	9.168	482.00	1.8259	1614.59	1107.75	10.490
344.00	1.3183	1084.61	718.69	9.191	484.00	1.8332	1621.95	1113.09	10.505
346.00	1.3257	1092.64	724.65	9.215	486.00	1.8405	1629.31	1118.43	10.520
348.00	1.3332	1100.66	730.59	9.238	488.00	1.8477	1636.66	1123.76	10.535
350.00	1.3406	1108.67	736.53	9.261	490.00	1.8550	1644.00	1129.08	10.550
352.00	1.3481	1116.66	742.46	9.283	492.00	1.8623	1651.33	1134.40	10.565
354.00	1.3555	1124.65	748.38	9.306	494.00	1.8695	1658.66	1139.71	10.580
356.00	1.3630	1132.62	754.29	9.328	496.00	1.8768	1665.98	1145.01	10.595
358.00	1.3704	1140.59	760.19	9.351	498.00	1.8841	1673.29	1150.31	10.610
360.00	1.3779	1148.54	766.08	9.373	500.00	1.8913	1680.60	1155.60	10.624
362.00	1.3853	1156.49	771.96	9.395	502.00	1.8986	1687.90	1160.89	10.639
364.00	1.3927	1164.42	777.83	9.417	504.00	1.9058	1695.19	1166.17	10.653
366.00	1.4001	1172.35	783.69	9.438	506.00	1.9131	1702.48	1171.45	10.668
368.00	1.4076	1180.26	789.55	9.460	508.00	1.9203	1709.76	1176.72	10.682
370.00	1.4150	1188.17	795.39	9.481	510.00	1.9276	1717.04	1181.98	10.696
372.00	1.4224	1196.06	801.23	9.503	512.00	1.9348	1724.31	1187.24	10.711
374.00	1.4298	1203.94	807.05	9.524	514.00	1.9421	1731.58	1192.50	10.725
376.00	1.4372	1211.81	812.86	9.545	516.00	1.9493	1738.84	1197.75	10.739
378.00	1.4447	1219.68	818.67	9.566	518.00	1.9566	1746.10	1202.99	10.753
380.00	1.4521	1227.53	824.47	9.586	520.00	1.9638	1753.35	1208.24	10.767
382.00	1.4595	1235.37	830.25	9.607	522.00	1.9711	1760.60	1213.47	10.781
384.00	1.4669	1243.20	836.03	9.627	524.00	1.9783	1767.84	1218.71	10.795
386.00	1.4743	1251.02	841.79	9.648	526.00	1.9855	1775.08	1223.93	10.809
388.00	1.4817	1258.82	847.55	9.668	528.00	1.9928	1782.31	1229.16	10.822
390.00	1.4890	1266.62	853.29	9.688	530.00	2.0000	1789.54	1234.38	10.836
392.00	1.4964	1274.41	859.03	9.708	532.00	2.0072	1796.77	1239.60	10.850
394.00	1.5038	1282.19	864.76	9.728	534.00	2.0145	1803.98	1244.81	10.863
396.00	1.5112	1289.95	870.47	9.747	536.00	2.0217	1811.20	1250.02	10.877
398.00	1.5186	1297.71	876.18	9.767	538.00	2.0289	1818.41	1255.22	10.890
400.00	1.5260	1305.45	881.88	9.786	540.00	2.0362	1825.62	1260.42	10.903

1750.00 PSIA ISOBAR					2000.00 PSIA ISOBAR				
TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)	TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)
36.00	.1973	-57.98	-121.89	1.496	36.00	.1950	-50.20	-122.37	1.460
38.00	.1990	-54.38	-118.82	1.593	38.00	.1965	-46.66	-119.40	1.555
40.00	.2007	-50.63	-115.64	1.689	40.00	.1981	-42.99	-116.32	1.650
42.00	.2026	-46.72	-112.32	1.785	42.00	.1998	-39.16	-113.11	1.743
44.00	.2045	-42.64	-108.86	1.880	44.00	.2016	-35.16	-109.77	1.836
46.00	.2065	-38.38	-105.25	1.974	46.00	.2034	-30.99	-106.28	1.929
48.00	.2086	-33.93	-101.48	2.069	48.00	.2054	-26.64	-102.64	2.021
50.00	.2108	-29.29	-97.56	2.164	50.00	.2074	-22.10	-98.85	2.114
52.00	.2131	-24.47	-93.48	2.258	52.00	.2095	-17.39	-94.91	2.206
54.00	.2155	-19.49	-89.28	2.352	54.00	.2116	-12.53	-90.86	2.298
56.00	.2180	-14.35	-84.96	2.446	56.00	.2139	-7.52	-86.68	2.389
58.00	.2207	-9.00	-80.46	2.540	58.00	.2163	-2.30	-82.34	2.481
60.00	.2235	-3.37	-75.74	2.635	60.00	.2187	3.20	-77.74	2.574
62.00	.2263	2.31	-70.97	2.729	62.00	.2212	8.72	-73.15	2.665
64.00	.2293	8.17	-66.08	2.822	64.00	.2239	14.40	-68.45	2.756
66.00	.2324	14.17	-61.08	2.914	66.00	.2266	20.22	-63.65	2.845
68.00	.2357	20.28	-56.03	3.005	68.00	.2295	26.13	-58.81	2.933
70.00	.2391	26.44	-50.98	3.094	70.00	.2325	32.08	-53.96	3.019
72.00	.2426	32.44	-46.14	3.179	72.00	.2356	37.85	-49.34	3.100
74.00	.2464	38.35	-41.43	3.260	74.00	.2388	43.53	-44.85	3.178
76.00	.2502	44.24	-36.79	3.338	76.00	.2421	49.18	-40.43	3.253
78.00	.2543	50.17	-32.18	3.415	78.00	.2456	54.85	-36.05	3.327
80.00	.2585	56.15	-27.56	3.491	80.00	.2492	60.57	-31.66	3.399
82.00	.2629	62.22	-22.91	3.566	82.00	.2529	66.36	-27.24	3.471
84.00	.2674	68.38	-18.22	3.640	84.00	.2567	72.24	-22.78	3.542
86.00	.2721	74.65	-13.48	3.714	86.00	.2607	78.22	-18.27	3.612
88.00	.2770	81.03	-8.68	3.787	88.00	.2648	84.30	-13.71	3.682
90.00	.2821	87.52	-3.83	3.860	90.00	.2690	90.49	-9.08	3.752
92.00	.2873	94.12	1.08	3.933	92.00	.2734	96.78	-4.40	3.821
94.00	.2927	100.83	6.05	4.005	94.00	.2779	103.18	.34	3.890
96.00	.2983	107.64	11.06	4.077	96.00	.2825	109.68	5.13	3.958
98.00	.3040	114.55	16.11	4.148	98.00	.2872	116.27	9.97	4.026
100.00	.3099	121.54	21.20	4.218	100.00	.2921	122.96	14.86	4.093
102.00	.3159	128.61	26.32	4.288	102.00	.2970	129.73	19.79	4.161
104.00	.3220	135.76	31.47	4.358	104.00	.3021	136.58	24.76	4.227
106.00	.3283	142.97	36.64	4.426	106.00	.3073	143.50	29.76	4.293
108.00	.3348	150.23	41.82	4.494	108.00	.3126	150.49	34.79	4.358
110.00	.3413	157.54	47.01	4.561	110.00	.3180	157.53	39.84	4.423
112.00	.3480	164.90	52.21	4.628	112.00	.3235	164.64	44.91	4.487
114.00	.3547	172.28	57.42	4.693	114.00	.3291	171.79	50.00	4.550
116.00	.3615	179.70	62.62	4.757	116.00	.3347	178.98	55.10	4.613
118.00	.3685	187.14	67.82	4.821	118.00	.3405	186.22	60.21	4.675
120.00	.3755	194.60	73.01	4.884	120.00	.3463	193.48	65.33	4.736
122.00	.3825	202.07	78.20	4.946	122.00	.3521	200.78	70.45	4.796
124.00	.3896	209.56	83.38	5.006	124.00	.3581	208.11	75.58	4.855
126.00	.3968	217.05	88.55	5.066	126.00	.3641	215.45	80.71	4.914
128.00	.4040	224.55	93.71	5.125	128.00	.3701	222.82	85.85	4.972
130.00	.4113	232.05	98.87	5.183	130.00	.3762	230.21	90.98	5.030
132.00	.4185	239.55	104.01	5.241	132.00	.3823	237.61	96.12	5.086
134.00	.4258	247.06	109.15	5.297	134.00	.3885	245.03	101.26	5.142
136.00	.4332	254.56	114.29	5.353	136.00	.3946	252.46	106.40	5.197
138.00	.4405	262.07	119.42	5.408	138.00	.4009	259.90	111.54	5.251
140.00	.4479	269.58	124.54	5.462	140.00	.4071	267.36	116.69	5.305
142.00	.4552	277.09	129.67	5.515	142.00	.4133	274.82	121.84	5.358
144.00	.4626	284.60	134.79	5.567	144.00	.4196	282.30	127.00	5.410
146.00	.4700	292.11	139.92	5.619	146.00	.4259	289.79	132.16	5.462
148.00	.4773	299.63	145.04	5.670	148.00	.4322	297.29	137.33	5.513
150.00	.4847	307.15	150.18	5.721	150.00	.4385	304.80	142.51	5.563
152.00	.4921	314.67	155.32	5.771	152.00	.4448	312.33	147.70	5.613
154.00	.4994	322.20	160.46	5.820	154.00	.4511	319.86	152.90	5.662
156.00	.5068	329.74	165.62	5.869	156.00	.4574	327.41	158.11	5.711
158.00	.5141	337.29	170.79	5.917	158.00	.4638	334.98	163.34	5.759
160.00	.5215	344.84	175.97	5.964	160.00	.4701	342.55	168.58	5.807
162.00	.5288	352.41	181.17	6.011	162.00	.4764	350.15	173.84	5.854
164.00	.5361	359.99	186.38	6.058	164.00	.4827	357.75	179.11	5.901
166.00	.5434	367.58	191.61	6.104	166.00	.4890	365.38	184.40	5.947
168.00	.5507	375.18	196.85	6.149	168.00	.4953	373.02	189.70	5.993
170.00	.5579	382.79	202.11	6.194	170.00	.5016	380.67	195.03	6.038
172.00	.5652	390.42	207.39	6.239	172.00	.5079	388.34	200.38	6.083
174.00	.5724	398.07	212.69	6.283	174.00	.5142	396.03	205.74	6.127
176.00	.5797	405.73	218.01	6.327	176.00	.5204	403.74	211.12	6.171
178.00	.5869	413.40	223.35	6.370	178.00	.5267	411.46	216.53	6.215
180.00	.5941	421.08	228.71	6.413	180.00	.5329	419.20	221.95	6.258

2500.00 PSIA ISO8AR

TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)
36.00	.1909	-34.71	-123.01	1.394
38.00	.1922	-31.27	-120.19	1.487
40.00	.1936	-27.71	-117.28	1.579
42.00	.1951	-24.00	-114.25	1.669
44.00	.1966	-20.15	-111.10	1.759
46.00	.1982	-16.12	-107.81	1.848
48.00	.1998	-11.93	-104.38	1.937
50.00	.2015	-7.56	-100.80	2.027
52.00	.2033	-3.02	-97.08	2.116
54.00	.2052	1.65	-93.26	2.204
56.00	.2071	6.48	-89.32	2.292
58.00	.2090	11.49	-85.22	2.380
60.00	.2110	16.80	-80.81	2.469
62.00	.2131	22.07	-76.50	2.557
64.00	.2152	27.49	-72.08	2.643
66.00	.2175	33.03	-67.58	2.728
68.00	.2198	38.64	-63.04	2.811
70.00	.2222	44.28	-58.51	2.893
72.00	.2247	49.74	-54.20	2.970
74.00	.2272	55.09	-50.04	3.043
76.00	.2299	60.40	-45.95	3.114
78.00	.2326	65.72	-41.89	3.183
80.00	.2354	71.07	-37.83	3.251
82.00	.2383	76.49	-33.74	3.318
84.00	.2412	81.98	-29.62	3.384
86.00	.2443	87.56	-25.45	3.450
88.00	.2474	93.24	-21.22	3.515
90.00	.2506	99.01	-16.93	3.580
92.00	.2539	104.88	-12.57	3.644
94.00	.2572	110.84	-8.16	3.708
96.00	.2607	116.90	-3.69	3.772
98.00	.2642	123.06	.84	3.836
100.00	.2678	129.31	5.42	3.899
102.00	.2715	135.64	10.06	3.962
104.00	.2752	142.05	14.74	4.024
106.00	.2790	148.55	19.46	4.086
108.00	.2829	155.11	24.23	4.147
110.00	.2869	161.75	29.03	4.208
112.00	.2909	168.45	33.87	4.268
114.00	.2950	175.21	38.74	4.328
116.00	.2991	182.03	43.64	4.387
118.00	.3034	188.91	48.56	4.446
120.00	.3076	195.83	53.51	4.504
122.00	.3120	202.80	58.48	4.562
124.00	.3163	209.82	63.47	4.619
126.00	.3208	216.87	68.48	4.675
128.00	.3252	223.97	73.51	4.731
130.00	.3298	231.10	78.55	4.787
132.00	.3343	238.27	83.61	4.841
134.00	.3389	245.47	88.68	4.895
136.00	.3435	252.70	93.77	4.949
138.00	.3482	259.96	98.88	5.002
140.00	.3529	267.25	104.00	5.054
142.00	.3576	274.56	109.13	5.106
144.00	.3623	281.91	114.28	5.158
146.00	.3671	289.28	119.45	5.209
148.00	.3719	296.67	124.63	5.259
150.00	.3767	304.09	129.83	5.309
152.00	.3815	311.54	135.05	5.358
154.00	.3863	319.01	140.29	5.407
156.00	.3912	326.51	145.54	5.455
158.00	.3960	334.03	150.81	5.503
160.00	.4009	341.57	156.11	5.550
162.00	.4058	349.14	161.42	5.597
164.00	.4106	356.73	166.75	5.644
166.00	.4155	364.35	172.11	5.690
168.00	.4204	371.99	177.49	5.736
170.00	.4253	379.65	182.89	5.781
172.00	.4302	387.34	188.31	5.826
174.00	.4351	395.05	193.75	5.871
176.00	.4400	402.78	199.21	5.915
178.00	.4449	410.53	204.70	5.959
180.00	.4498	418.31	210.20	6.002

3000.00 PSIA ISO8AR

TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)
36.00	.1873	-19.31	-123.29	1.336
38.00	.1885	-15.94	-120.59	1.427
40.00	.1897	-12.47	-117.81	1.516
42.00	.1910	-8.87	-114.93	1.604
44.00	.1924	-5.12	-111.92	1.691
46.00	.1938	-1.22	-108.79	1.778
48.00	.1952	2.85	-105.53	1.865
50.00	.1967	7.09	-102.12	1.951
52.00	.1983	11.50	-98.57	2.038
54.00	.1999	16.03	-94.92	2.123
56.00	.2015	20.72	-91.15	2.208
58.00	.2032	25.57	-87.24	2.294
60.00	.2049	30.73	-83.00	2.381
62.00	.2066	35.83	-78.89	2.465
64.00	.2085	41.05	-74.69	2.549
66.00	.2104	46.39	-70.41	2.631
68.00	.2124	51.80	-66.10	2.711
70.00	.2144	57.22	-61.80	2.790
72.00	.2165	62.46	-57.72	2.863
74.00	.2186	67.58	-53.78	2.934
76.00	.2208	72.66	-49.92	3.001
78.00	.2231	77.74	-46.10	3.067
80.00	.2254	82.85	-42.27	3.132
82.00	.2277	88.02	-38.41	3.196
84.00	.2302	93.26	-34.52	3.259
86.00	.2326	98.57	-30.58	3.322
88.00	.2352	103.98	-26.58	3.384
90.00	.2378	109.48	-22.52	3.445
92.00	.2404	115.07	-18.40	3.507
94.00	.2431	120.75	-14.22	3.568
96.00	.2459	126.52	-9.97	3.629
98.00	.2487	132.39	-5.66	3.689
100.00	.2515	138.34	-1.30	3.749
102.00	.2544	144.38	3.12	3.809
104.00	.2574	150.49	7.59	3.868
106.00	.2604	156.69	12.11	3.927
108.00	.2635	162.96	16.67	3.986
110.00	.2666	169.30	21.28	4.044
112.00	.2698	175.71	25.94	4.102
114.00	.2730	182.19	30.63	4.159
116.00	.2763	188.73	35.35	4.216
118.00	.2796	195.32	40.11	4.273
120.00	.2829	201.98	44.90	4.328
122.00	.2863	208.68	49.73	4.384
124.00	.2898	215.44	54.58	4.439
126.00	.2932	222.25	59.46	4.493
128.00	.2967	229.11	64.37	4.547
130.00	.3003	236.01	69.30	4.601
132.00	.3039	242.96	74.26	4.654
134.00	.3075	249.95	79.24	4.706
136.00	.3111	256.98	84.25	4.759
138.00	.3148	264.05	89.28	4.810
140.00	.3185	271.16	94.33	4.861
142.00	.3223	278.31	99.41	4.912
144.00	.3260	285.49	104.51	4.962
146.00	.3298	292.71	109.63	5.012
148.00	.3336	299.97	114.77	5.061
150.00	.3374	307.26	119.95	5.110
152.00	.3412	314.58	125.14	5.159
154.00	.3451	321.94	130.36	5.207
156.00	.3490	329.34	135.60	5.255
158.00	.3529	336.76	140.87	5.302
160.00	.3568	344.22	146.16	5.349
162.00	.3607	351.71	151.48	5.395
164.00	.3646	359.24	156.83	5.442
166.00	.3685	366.79	162.20	5.487
168.00	.3725	374.38	167.59	5.533
170.00	.3764	381.99	173.01	5.578
172.00	.3804	389.64	178.46	5.622
174.00	.3844	397.31	183.93	5.667
176.00	.3883	405.01	189.43	5.711
178.00	.3923	412.74	194.94	5.755
180.00	.3963	420.50	200.49	5.798

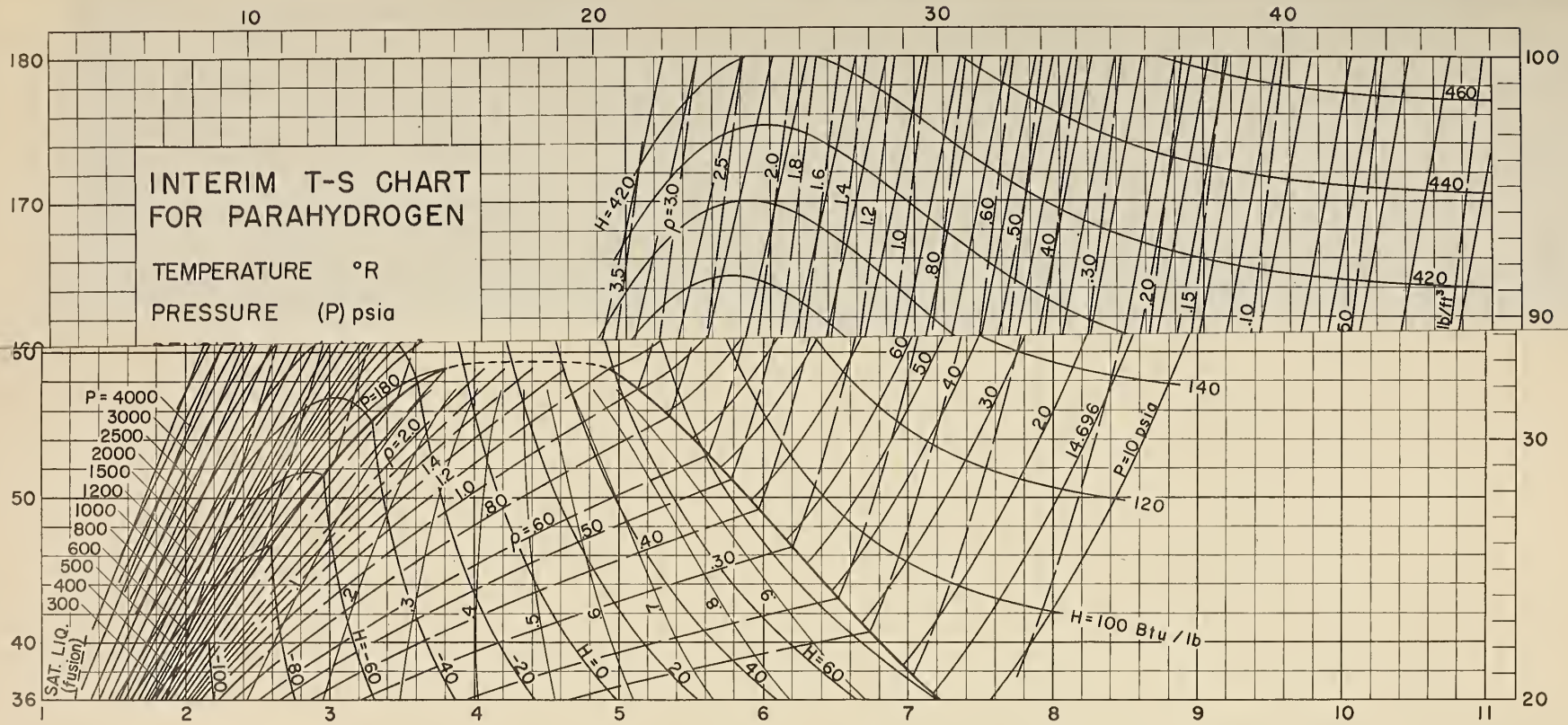
3500.00 PSIA ISOBAR					4000.00 PSIA ISOBAR				
TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)	TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)
38.00	.1852	-.71	-120.68	1.373					
40.00	.1864	2.69	-118.01	1.460	40.00	.1834	17.77	-117.95	1.410
42.00	.1875	6.21	-115.25	1.546	42.00	.1844	21.22	-115.29	1.494
44.00	.1887	9.87	-112.37	1.631	44.00	.1855	24.80	-112.53	1.577
46.00	.1900	13.67	-109.37	1.716	46.00	.1867	28.52	-109.64	1.660
48.00	.1913	17.64	-106.24	1.800	48.00	.1878	32.41	-106.62	1.743
50.00	.1926	21.78	-102.97	1.885	50.00	.1890	36.46	-103.46	1.825
52.00	.1940	26.08	-99.56	1.969	52.00	.1903	40.66	-100.17	1.908
54.00	.1954	30.50	-96.05	2.053	54.00	.1915	45.00	-96.78	1.990
56.00	.1969	35.08	-92.43	2.136	56.00	.1929	49.48	-93.27	2.071
58.00	.1984	39.81	-88.66	2.219	58.00	.1942	54.12	-89.62	2.153
60.00	.1998	44.82	-84.59	2.304	60.00	.1955	58.99	-85.73	2.235
62.00	.2014	49.78	-80.64	2.386	62.00	.1969	63.85	-81.91	2.316
64.00	.2030	54.87	-76.61	2.468	64.00	.1984	68.82	-78.01	2.396
66.00	.2047	60.06	-72.49	2.547	66.00	.1998	73.89	-74.04	2.473
68.00	.2064	65.30	-68.36	2.625	68.00	.2014	79.01	-70.05	2.549
70.00	.2081	70.57	-64.24	2.701	70.00	.2029	84.14	-66.07	2.624
72.00	.2099	75.64	-60.34	2.773	72.00	.2045	89.08	-62.31	2.693
74.00	.2118	80.60	-56.58	2.841	74.00	.2062	93.91	-58.69	2.759
76.00	.2137	85.51	-52.89	2.906	76.00	.2078	98.69	-55.15	2.823
78.00	.2156	90.41	-49.24	2.970	78.00	.2095	103.47	-51.64	2.885
80.00	.2176	95.35	-45.59	3.032	80.00	.2113	108.26	-48.12	2.946
82.00	.2196	100.33	-41.91	3.094	82.00	.2130	113.11	-44.58	3.006
84.00	.2217	105.38	-38.19	3.155	84.00	.2148	118.03	-41.00	3.065
86.00	.2238	110.51	-34.42	3.215	86.00	.2167	123.01	-37.36	3.124
88.00	.2259	115.73	-30.59	3.275	88.00	.2185	128.08	-33.67	3.182
90.00	.2281	121.03	-26.71	3.335	90.00	.2204	133.24	-29.92	3.240
92.00	.2303	126.42	-22.76	3.394	92.00	.2223	138.48	-26.10	3.297
94.00	.2326	131.90	-18.74	3.453	94.00	.2243	143.81	-22.22	3.355
96.00	.2349	137.47	-14.66	3.511	96.00	.2263	149.23	-18.27	3.412
98.00	.2372	143.13	-10.52	3.570	98.00	.2283	154.73	-14.26	3.468
100.00	.2396	148.87	-6.33	3.628	100.00	.2303	160.31	-10.19	3.525
102.00	.2420	154.69	-2.07	3.685	102.00	.2324	165.98	-6.07	3.581
104.00	.2445	160.60	2.24	3.743	104.00	.2345	171.72	-1.88	3.637
106.00	.2470	166.58	6.60	3.800	106.00	.2367	177.54	2.35	3.692
108.00	.2495	172.63	11.01	3.856	108.00	.2388	183.43	6.64	3.747
110.00	.2521	178.76	15.47	3.912	110.00	.2410	189.39	10.98	3.802
112.00	.2547	184.96	19.98	3.968	112.00	.2432	195.42	15.37	3.856
114.00	.2574	191.22	24.52	4.024	114.00	.2455	201.52	19.80	3.910
116.00	.2601	197.54	29.11	4.079	116.00	.2478	207.68	24.27	3.964
118.00	.2628	203.93	33.73	4.133	118.00	.2501	213.90	28.78	4.017
120.00	.2655	210.37	38.40	4.187	120.00	.2524	220.18	33.34	4.070
122.00	.2683	216.87	43.09	4.241	122.00	.2548	226.51	37.93	4.122
124.00	.2711	223.43	47.83	4.294	124.00	.2572	232.91	42.56	4.174
126.00	.2740	230.04	52.59	4.347	126.00	.2596	239.36	47.22	4.226
128.00	.2768	236.70	57.39	4.400	128.00	.2620	245.86	51.93	4.277
130.00	.2798	243.41	62.22	4.452	130.00	.2645	252.42	56.66	4.328
132.00	.2827	250.17	67.08	4.503	132.00	.2669	259.02	61.43	4.378
134.00	.2857	256.98	71.96	4.555	134.00	.2694	265.68	66.23	4.428
136.00	.2886	263.83	76.88	4.605	136.00	.2720	272.39	71.07	4.478
138.00	.2917	270.73	81.83	4.656	138.00	.2745	279.14	75.94	4.527
140.00	.2947	277.68	86.81	4.706	140.00	.2771	285.95	80.84	4.576
142.00	.2978	284.67	91.81	4.755	142.00	.2797	292.80	85.78	4.625
144.00	.3008	291.70	96.85	4.804	144.00	.2823	299.69	90.75	4.673
146.00	.3040	298.78	101.91	4.853	146.00	.2849	306.64	95.75	4.721
148.00	.3071	305.89	107.00	4.902	148.00	.2876	313.63	100.78	4.768
150.00	.3102	313.05	112.12	4.950	150.00	.2902	320.66	105.85	4.815
152.00	.3134	320.25	117.27	4.997	152.00	.2929	327.74	110.94	4.862
154.00	.3166	327.49	122.45	5.045	154.00	.2956	334.87	116.07	4.909
156.00	.3198	334.77	127.66	5.092	156.00	.2983	342.04	121.24	4.955
158.00	.3230	342.09	132.90	5.138	158.00	.3010	349.25	126.44	5.001
160.00	.3262	349.45	138.17	5.184	160.00	.3038	356.51	131.67	5.047
162.00	.3294	356.84	143.46	5.230	162.00	.3065	363.80	136.93	5.092
164.00	.3327	364.28	148.79	5.276	164.00	.3093	371.15	142.22	5.137
166.00	.3360	371.75	154.15	5.321	166.00	.3120	378.53	147.55	5.182
168.00	.3392	379.25	159.53	5.366	168.00	.3148	385.95	152.91	5.226
170.00	.3425	386.80	164.95	5.411	170.00	.3176	393.41	158.30	5.270
172.00	.3458	394.38	170.39	5.455	172.00	.3204	400.91	163.73	5.314
174.00	.3491	401.99	175.86	5.499	174.00	.3232	408.45	169.18	5.358
176.00	.3524	409.63	181.36	5.543	176.00	.3261	416.03	174.67	5.401
178.00	.3558	417.31	186.88	5.586	178.00	.3289	423.64	180.18	5.444
180.00	.3591	425.02	192.43	5.629	180.00	.3318	431.29	185.72	5.487

4500.00 PSIA ISOBAR

TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)
42.00	.1816	36.14	-115.12	1.446
44.00	.1826	39.65	-112.44	1.528
46.00	.1837	43.31	-109.65	1.609
48.00	.1848	47.12	-106.73	1.690
50.00	.1859	51.09	-103.67	1.771
52.00	.1870	55.22	-100.48	1.852
54.00	.1881	59.48	-97.19	1.933
56.00	.1893	63.89	-93.78	2.013
58.00	.1906	68.45	-90.23	2.093
60.00	.1918	73.18	-86.52	2.173
62.00	.1931	77.96	-82.81	2.252
64.00	.1944	82.84	-79.02	2.331
66.00	.1957	87.81	-75.17	2.407
68.00	.1971	92.83	-71.30	2.481
70.00	.1985	97.85	-67.44	2.554
72.00	.1999	102.69	-63.81	2.622
74.00	.2014	107.41	-60.30	2.687
76.00	.2029	112.09	-56.88	2.749
78.00	.2044	116.76	-53.47	2.810
80.00	.2060	121.45	-50.07	2.869
82.00	.2075	126.19	-46.64	2.928
84.00	.2091	130.99	-43.17	2.986
86.00	.2108	135.87	-39.65	3.043
88.00	.2124	140.82	-36.07	3.100
90.00	.2141	145.86	-32.42	3.157
92.00	.2158	150.99	-28.71	3.213
94.00	.2175	156.20	-24.93	3.269
96.00	.2193	161.50	-21.09	3.325
98.00	.2210	166.88	-17.19	3.380
100.00	.2228	172.34	-13.23	3.436
102.00	.2247	177.88	-9.20	3.490
104.00	.2265	183.50	-5.12	3.545
106.00	.2284	189.19	-.98	3.599
108.00	.2303	194.95	3.20	3.653
110.00	.2322	200.79	7.44	3.707
112.00	.2341	206.68	11.73	3.760
114.00	.2361	212.65	16.06	3.812
116.00	.2381	218.68	20.44	3.865
118.00	.2401	224.77	24.86	3.917
120.00	.2421	230.92	29.33	3.969
122.00	.2441	237.12	33.83	4.020
124.00	.2462	243.39	38.37	4.071
126.00	.2483	249.71	42.95	4.121
128.00	.2504	256.08	47.57	4.172
130.00	.2525	262.51	52.23	4.221
132.00	.2547	268.99	56.92	4.271
134.00	.2568	275.52	61.65	4.320
136.00	.2590	282.10	66.41	4.369
138.00	.2612	288.73	71.21	4.417
140.00	.2634	295.41	76.04	4.465
142.00	.2657	302.15	80.91	4.513
144.00	.2679	308.93	85.82	4.560
146.00	.2702	315.76	90.76	4.607
148.00	.2725	322.64	95.73	4.654
150.00	.2748	329.56	100.74	4.701
152.00	.2771	336.53	105.79	4.747
154.00	.2794	343.56	110.87	4.793
156.00	.2818	350.62	115.99	4.838
158.00	.2841	357.74	121.14	4.884
160.00	.2865	364.90	126.33	4.929
162.00	.2889	372.10	131.55	4.974
164.00	.2913	379.35	136.81	5.018
166.00	.2937	386.65	142.10	5.062
168.00	.2961	393.99	147.43	5.106
170.00	.2985	401.37	152.79	5.150
172.00	.3009	408.79	158.19	5.193
174.00	.3034	416.26	163.62	5.236
176.00	.3058	423.76	169.08	5.279
178.00	.3083	431.30	174.57	5.322
180.00	.3108	438.89	180.09	5.364

5000.00 PSIA ISOBAR

TEMPERATURE (R)	SPECIFIC VOLUME (CU FT/LB)	ENTHALPY (BTU/LB)	INTERNAL ENERGY (BTU/LB)	ENTROPY (BTU/LB-R)
42.00	.1791	50.98	-114.76	1.402
44.00	.1801	54.43	-112.16	1.482
46.00	.1810	58.03	-109.45	1.562
48.00	.1820	61.78	-106.62	1.642
50.00	.1830	65.68	-103.65	1.722
52.00	.1841	69.74	-100.55	1.801
54.00	.1851	73.93	-97.35	1.880
56.00	.1862	78.27	-94.02	1.959
58.00	.1873	82.77	-90.56	2.039
60.00	.1885	87.37	-87.04	2.117
62.00	.1897	92.07	-83.42	2.195
64.00	.1909	96.88	-79.73	2.272
66.00	.1921	101.77	-75.97	2.347
68.00	.1934	106.70	-72.21	2.420
70.00	.1946	111.64	-68.46	2.491
72.00	.1960	116.39	-64.92	2.558
74.00	.1973	121.03	-61.52	2.622
76.00	.1986	125.61	-58.19	2.683
78.00	.2000	130.19	-54.88	2.742
80.00	.2014	134.80	-51.57	2.801
82.00	.2029	139.45	-48.24	2.858
84.00	.2043	144.16	-44.86	2.915
86.00	.2058	148.95	-41.43	2.971
88.00	.2072	153.82	-37.94	3.027
90.00	.2088	158.77	-34.38	3.083
92.00	.2103	163.80	-30.76	3.138
94.00	.2118	168.91	-27.07	3.193
96.00	.2134	174.12	-23.32	3.248
98.00	.2150	179.40	-19.51	3.302
100.00	.2166	184.76	-15.63	3.357
102.00	.2182	190.20	-11.69	3.410
104.00	.2198	195.72	-7.69	3.464
106.00	.2215	201.31	-3.64	3.517
108.00	.2232	206.97	.46	3.570
110.00	.2249	212.70	4.62	3.623
112.00	.2266	218.49	8.82	3.675
114.00	.2283	224.35	13.08	3.727
116.00	.2301	230.27	17.38	3.778
118.00	.2319	236.26	21.72	3.829
120.00	.2337	242.30	26.11	3.880
122.00	.2355	248.40	30.53	3.931
124.00	.2373	254.56	35.00	3.981
126.00	.2391	260.77	39.51	4.030
128.00	.2410	267.03	44.06	4.080
130.00	.2429	273.35	48.64	4.129
132.00	.2448	279.73	53.27	4.177
134.00	.2467	286.15	57.93	4.226
136.00	.2486	292.63	62.63	4.274
138.00	.2505	299.16	67.36	4.321
140.00	.2525	305.74	72.13	4.369
142.00	.2544	312.37	76.94	4.416
144.00	.2564	319.05	81.79	4.462
146.00	.2584	325.78	86.67	4.509
148.00	.2604	332.56	91.59	4.555
150.00	.2625	339.39	96.55	4.601
152.00	.2645	346.27	101.55	4.646
154.00	.2665	353.19	106.58	4.692
156.00	.2686	360.17	111.65	4.737
158.00	.2707	367.20	116.76	4.781
160.00	.2728	374.27	121.90	4.826
162.00	.2748	381.39	127.08	4.870
164.00	.2770	388.56	132.30	4.914
166.00	.2791	395.77	137.56	4.958
168.00	.2812	403.03	142.85	5.001
170.00	.2833	410.33	148.18	5.044
172.00	.2855	417.68	153.55	5.087
174.00	.2876	425.08	158.95	5.130
176.00	.2898	432.51	164.38	5.173
178.00	.2920	439.99	169.85	5.215
180.00	.2941	447.50	175.35	5.257

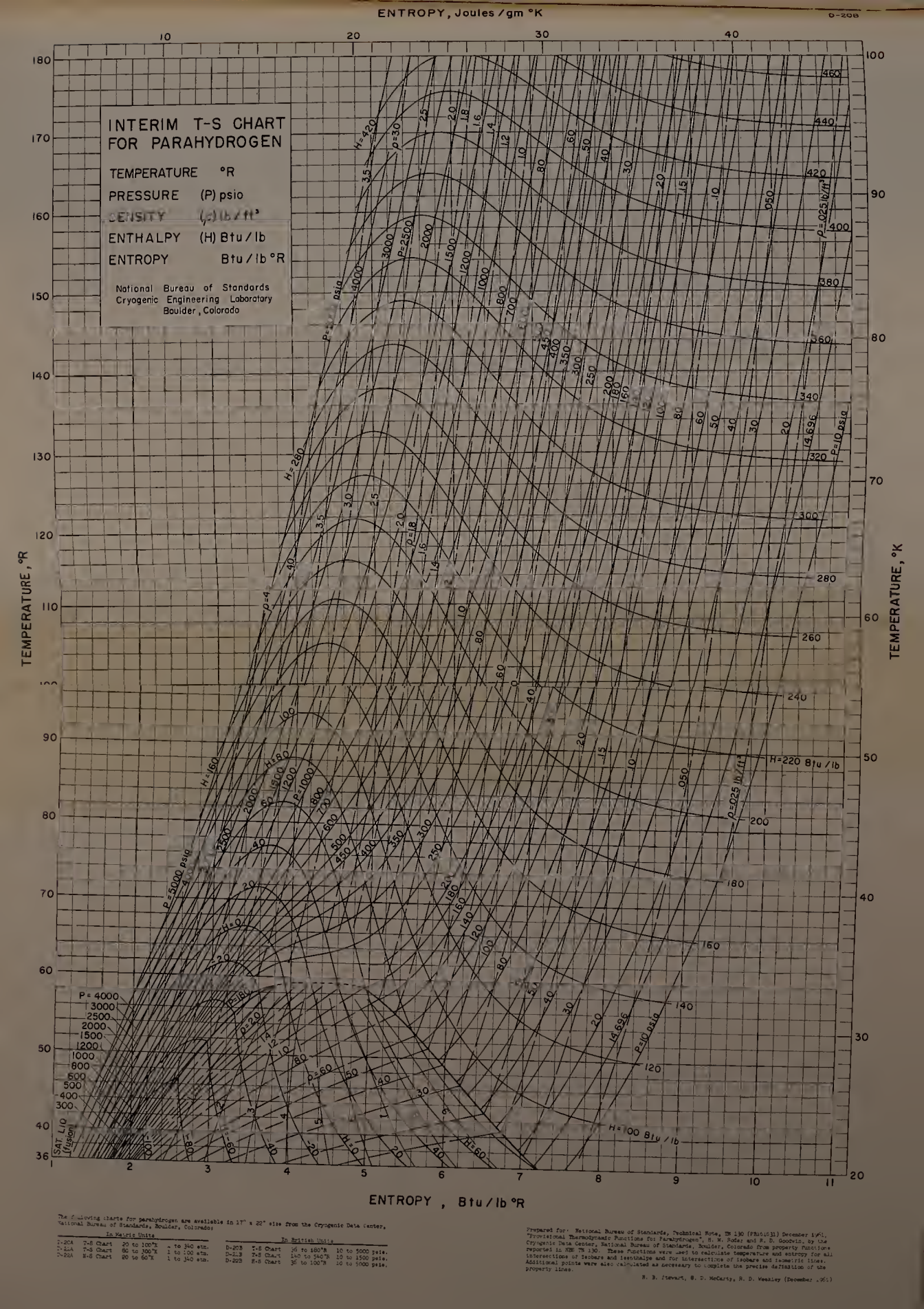


The following charts for parahydrogen are available in 17" x 22" size from the Cryogenic Data Center, National Bureau of Standards, Boulder, Colorado:

In Metric Units				In British Units			
D-20A	T-S Chart	20 to 100°K	1 to 340 atm.	D-20B	T-S Chart	36 to 180°R	10 to 5000 psia.
D-21A	T-S Chart	80 to 300°K	1 to 100 atm.	D-21B	T-S Chart	140 to 540°R	10 to 1500 psia.
D-22A	H-S Chart	20 to 60°K	1 to 340 atm.	D-22B	H-S Chart	36 to 100°R	10 to 5000 psia.

Prepared for: National Bureau of Standards, Technical Note, TN 130 (PB161631) December 1961, "Provisional Thermodynamic Functions for Parahydrogen", H. M. Roder and R. D. Goodwin; by the Cryogenic Data Center, National Bureau of Standards, Boulder, Colorado from property functions reported in NBS TN 130. These functions were used to calculate temperature and entropy for all intersections of isobars and isenthalps and for intersections of isobars and isometric linee. Additional points were also calculated as necessary to complete the precise definition of the property lines.

R. B. Stewart, R. D. McCarty, R. D. Weekley (December 1961)

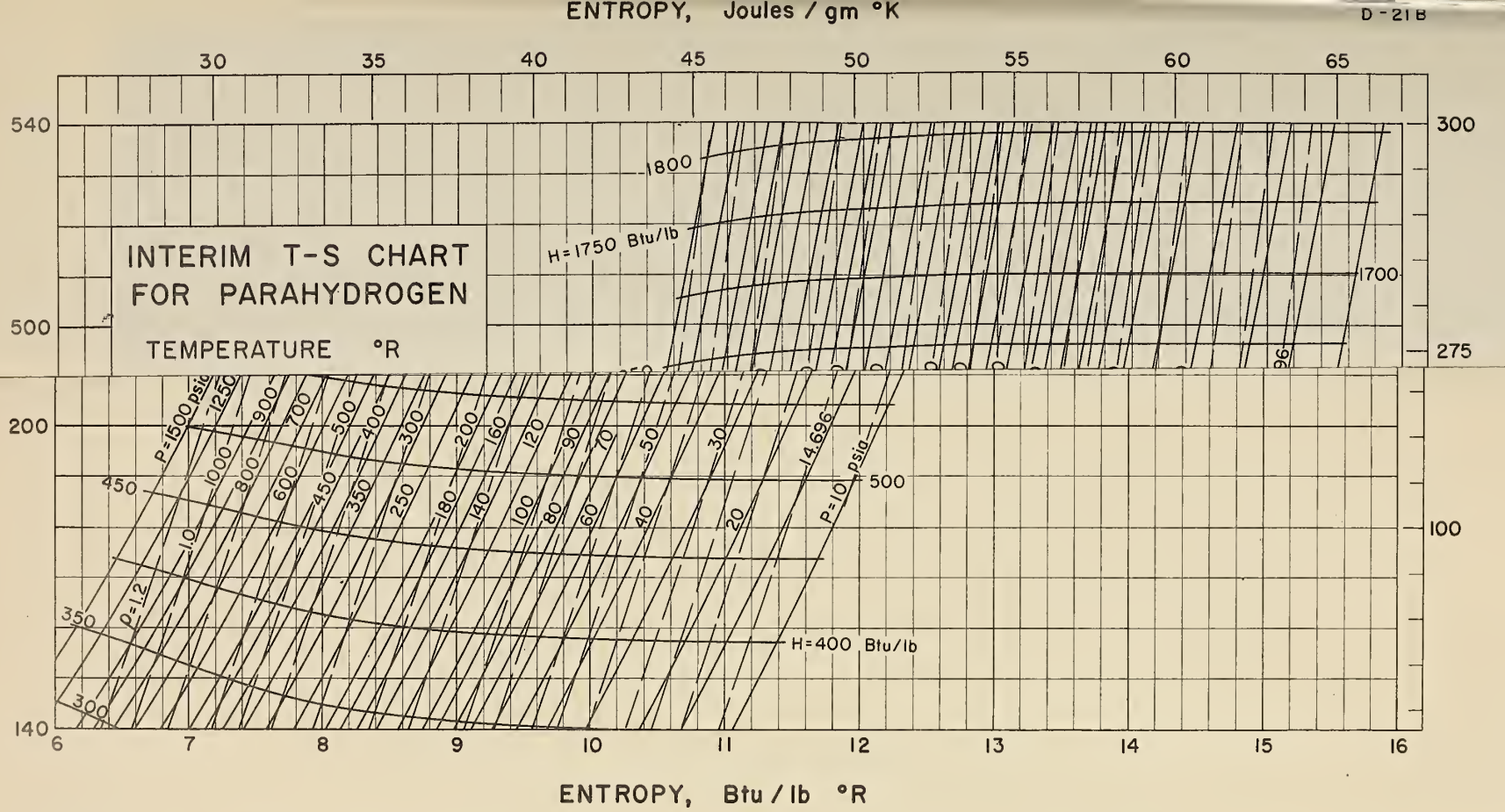


The following charts for parahydrogen are available in 17" x 22" size from the Cryogenic Data Center, National Bureau of Standards, Boulder, Colorado:

In Metric Units				In British Units			
1-20A	T-S Chart	20 to 100°K	1 to 340 atm.	D-20B	T-S Chart	36 to 180°R	10 to 5000 psia.
2-22A	T-S Chart	80 to 300°K	1 to 100 atm.	D-21B	T-S Chart	140 to 540°R	10 to 1500 psia.
2-22A	H-S Chart	20 to 60°K	1 to 340 atm.	D-22B	H-S Chart	36 to 100°R	10 to 5000 psia.

Prepared for: National Bureau of Standards, Technical Note, TN 190 (PB161811) December 1963, "Provisional Thermodynamic Functions for Parahydrogen", R. W. Hofer and R. D. Goodwin, by the Cryogenic Data Center, National Bureau of Standards, Boulder, Colorado from property functions reported in NBS TN 190. These functions were used to calculate temperature and entropy for all intersections of isobars and isenthalps and for intersections of isobars and isomeric lines. Additional points were also calculated as necessary to complete the precise definition of the property lines.

R. B. Stewart, R. D. McCarty, R. D. Weakley (December, 1961)



The following charts for parahydrogen are available in 17" x 22" size from the Cryogenic Data Center, National Bureau of Standards, Boulder, Colorado:

	In Metric Units				In British Units		
D-20A	T-S Chart	20 to 100°K	1 to 340 atm.	D-20B	T-S Chart	36 to 180°R	10 to 5000 psia.
D-21A	T-S Chart	80 to 300°K	1 to 100 atm.	D-21B	T-S Chart	140 to 540°R	10 to 1500 psia.
D-22A	H-S Chart	20 to 60°K	1 to 340 atm.	D-22B	H-S Chart	36 to 100°R	10 to 5000 psia.

Prepared for: National Bureau of Standards, Technical Note, TN 130 (PB161631) December 1961, "Provisional Thermodynamic Functions for Parahydrogen", H. M. Roder and R. D. Goodwin; by the Cryogenic Data Center, National Bureau of Standards, Boulder, Colorado, from property functions reported in NBS TN 130. These functions were used to calculate temperature and entropy for all intersections of isobars and isenthalps and for intersections of isobars and isometric lines. Additional points were also calculated as necessary to complete the precise definition of the property lines.

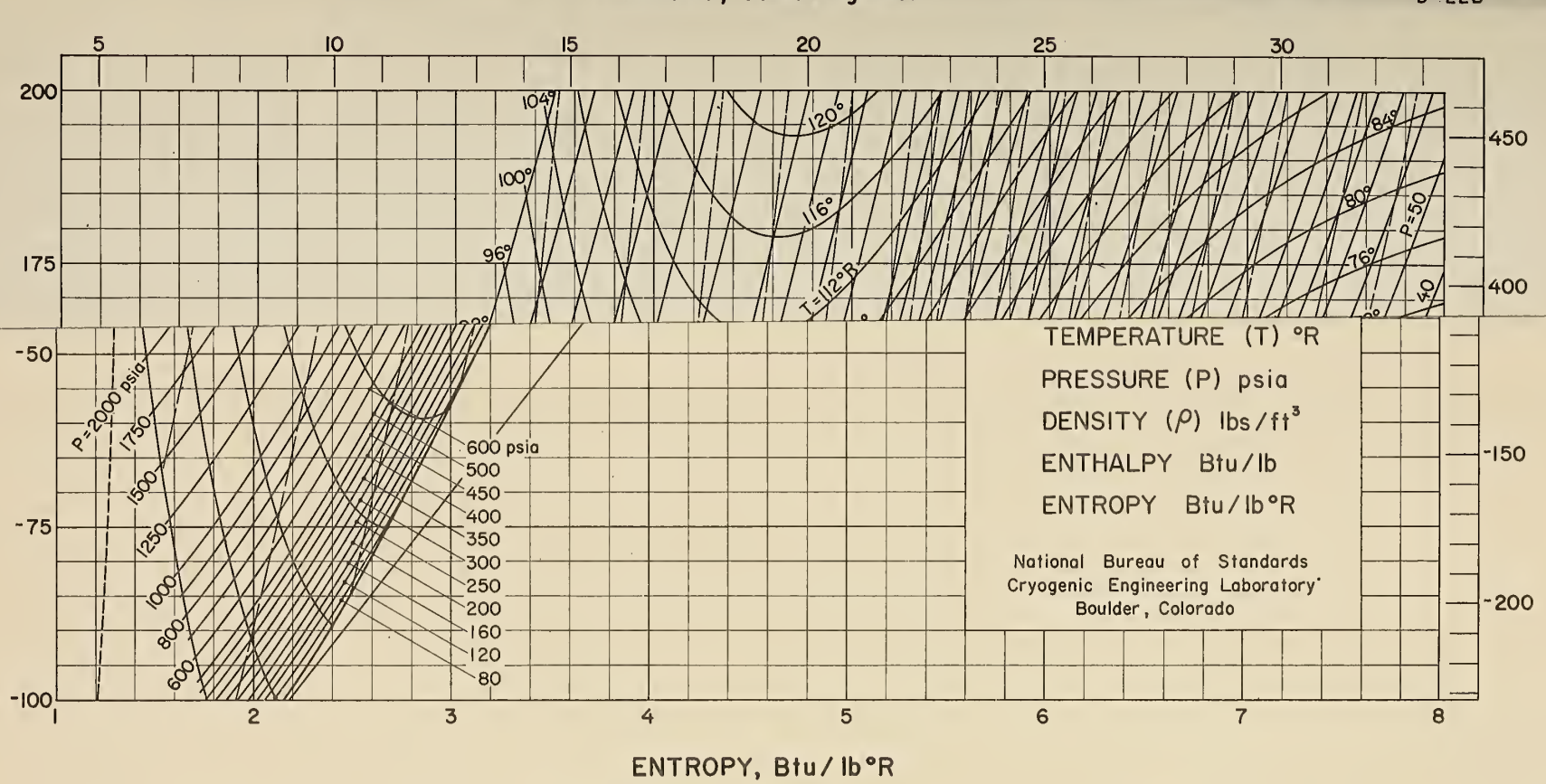
R. B. Stewart, R. D. McCarty, T. W. Griffith (December 1961)

The following charts for parahydrogen are available in 17" x 22" size from the Cryogenic Data Center, National Bureau of Standards, Boulder, Colorado:

	In Metric Units				In British Units		
D-20A	T-S Chart	20 to 100°K	1 to 340 atm.	D-20B	T-S Chart	36 to 180°R	10 to 5000 psia.
D-21A	T-S Chart	80 to 300°K	1 to 100 atm.	D-21B	T-S Chart	140 to 540°R	10 to 1500 psia.
D-22A	H-S Chart	20 to 60°K	1 to 340 atm.	D-22B	H-S Chart	36 to 100°R	10 to 5000 psia.

Prepared for: National Bureau of Standards, Technical Note, TN 130 (PB161631) December 1961, "Provisional Thermodynamic Functions for Parahydrogen", H. M. Roder and R. D. Goodwin; by the Cryogenic Data Center, National Bureau of Standards, Boulder, Colorado, from property functions reported in NBS TN 130. These functions were used to calculate temperature and entropy for all intersections of isobars and isenthalps and for intersections of isobars and isometric lines. Additional points were also calculated as necessary to complete the precise definition of the property lines.

R. B. Stewart, R. D. McCarty, T. W. Griffith (December 1961)

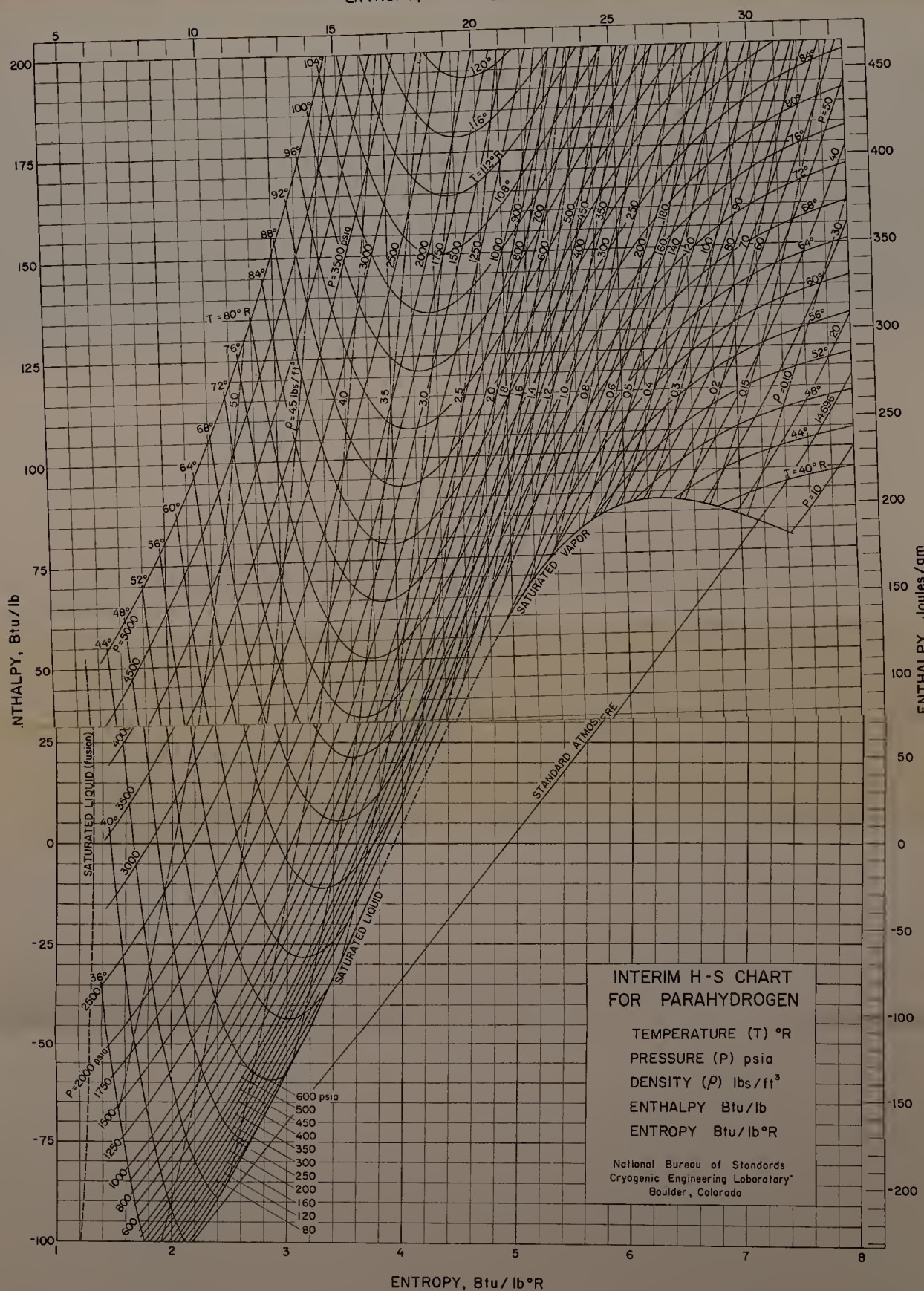


The following charts for parahydrogen are available in 17" x 22" size from the Cryogenic Data Center, National Bureau of Standards, Boulder, Colorado:

In Metric Units				In British Units			
D-20A	T-S Chart	20 to 100°K	1 to 340 atm.	D-20B	T-S Chart	36 to 180°R	10 to 5000 psia.
D-21A	T-S Chart	80 to 300°K	1 to 100 atm.	D-21B	T-S Chart	140 to 540°R	10 to 1500 psia.
D-22A	H-S Chart	20 to 60°K	1 to 340 atm.	D-22B	H-S Chart	36 to 100°R	10 to 5000 psia.

Prepared for: National Bureau of Standards, Technical Note, TN 130 (PB161631) December 1961, "Provisional Thermodynamic Functions for Parahydrogen", H. M. Roder and R. D. Goodwin; by the Cryogenic Data Center, National Bureau of Standards, Boulder, Colorado from property functions reported in NBS TN 130. These functions were used to calculate temperature and entropy for all intersections of isobars and isenthalps and for intersections of isobars and isometric lines. Additional points were also calculated as necessary to complete the precise definition of the property lines.

R. B. Stewart, R. D. McCarty, L. J. Ericks (December 1961)



The following charts for parahydrogen are available in 17" x 22" size from the Cryogenic Data Center, National Bureau of Standards, Boulder, Colorado:

In Metric Units				In British Units			
D-20A	T-S Chart	20 to 100°K	1 to 340 atm.	D-20B	T-S Chart	36 to 180°R	10 to 5000 psia.
D-21A	T-S Chart	80 to 300°K	1 to 100 atm.	D-21B	T-S Chart	140 to 540°R	10 to 1500 psia.
D-22A	H-S Chart	20 to 60°K	1 to 340 atm.	D-22B	H-S Chart	36 to 100°R	10 to 5000 psia.

Prepared for: National Bureau of Standards, Technical Note, TN 130 (PB161631) December 1961, "Provisional Thermodynamic Functions for Parahydrogen", H. M. Roder and R. D. Goodwin; by the Cryogenic Data Center, National Bureau of Standards, Boulder, Colorado from property functions reported in NBS TN 130. These functions were used to calculate temperature and entropy for all intersections of isobars and isenthalps and for intersections of isobars and isometric lines. Additional points were also calculated as necessary to complete the precise definition of the property lines.

R. B. Stewart, R. D. McCarty, L. J. Hicks (December 1961)

U. S. DEPARTMENT OF COMMERCE
Luther H. Hodges, *Secretary*

NATIONAL BUREAU OF STANDARDS
A. V. Astin, *Director*

THE NATIONAL BUREAU OF STANDARDS

The scope of activities of the National Bureau of Standards at its major laboratories in Washington, D.C., and Boulder, Colorado, is suggested in the following listing of the divisions and sections engaged in technical work. In general, each section carries out specialized research, development, and engineering in the field indicated by its title. A brief description of the activities, and of the resultant publications, appears on the inside of the front cover.

WASHINGTON, D.C.

Electricity. Resistance and Reactance. Electrochemistry. Electrical Instruments. Magnetic Measurements. Dielectrics. High Voltage.

Metrology. Photometry and Colorimetry. Refractometry. Photographic Research. Length. Engineering Metrology. Mass and Scale. Volumetry and Densimetry.

Heat. Temperature Physics. Heat Measurements. Cryogenic Physics. Equation of State. Statistical Physics.

Radiation Physics. X-ray. Radioactivity. Radiation Theory. High Energy Radiation. Radiological Equipment. Nucleonic Instrumentation. Neutron Physics.

Analytical and Inorganic Chemistry. Pure Substances. Spectrochemistry. Solution Chemistry. Standard Reference Materials. Applied Analytical Research.

Mechanics. Sound. Pressure and Vacuum. Fluid Mechanics. Engineering Mechanics. Rheology. Combustion Controls.

Organic and Fibrous Materials. Rubber. Textiles. Paper. Leather. Testing and Specifications. Polymer Structure. Plastics. Dental Research.

Metallurgy. Thermal Metallurgy. Chemical Metallurgy. Mechanical Metallurgy. Corrosion. Metal Physics. Electrolysis and Metal Deposition.

Mineral Products. Engineering Ceramics. Glass. Refractories. Enameled Metals. Crystal Growth. Physical Properties. Constitution and Microstructure.

Building Research. Structural Engineering. Fire Research. Mechanical Systems. Organic Building Materials. Codes and Safety Standards. Heat Transfer. Inorganic Building Materials.

Applied Mathematics. Numerical Analysis. Computation. Statistical Engineering. Mathematical Physics. Operations Research.

Data Processing Systems. Components and Techniques. Computer Technology. Measurements Automation. Engineering Applications. Systems Analysis.

Atomic Physics. Spectroscopy. Infrared Spectroscopy. Solid State Physics. Electron Physics. Atomic Physics.

Instrumentation. Engineering Electronics. Electron Devices. Electronic Instrumentation. Mechanical Instruments. Basic Instrumentation.

Physical Chemistry. Thermochemistry. Surface Chemistry. Organic Chemistry. Molecular Spectroscopy. Molecular Kinetics. Mass Spectrometry.

Office of Weights and Measures.

BOULDER, COLO.

Cryogenic Engineering. Cryogenic Equipment. Cryogenic Processes. Properties of Materials. Cryogenic Technical Services.

Ionosphere Research and Propagation. Low Frequency and Very Low Frequency Research. Ionosphere Research. Prediction Services. Sun-Earth Relationships. Field Engineering. Radio Warning Services. Vertical Soundings Research.

Radio Propagation Engineering. Data Reduction Instrumentation. Radio Noise. Tropospheric Measurements. Tropospheric Analysis. Propagation-Terrain Effects. Radio-Meteorology. Lower Atmosphere Physics.

Radio Standards. High Frequency Electrical Standards. Radio Broadcast Service. Radio and Microwave Materials. Atomic Frequency and Time Interval Standards. Electronic Calibration Center. Millimeter-Wave Research. Microwave Circuit Standards.

Radio Systems. Applied Electromagnetic Theory. High Frequency and Very High Frequency Research. Modulation Research. Antenna Research. Navigation Systems.

Upper Atmosphere and Space Physics. Upper Atmosphere and Plasma Physics. Ionosphere and Exosphere Scatter. Airglow and Aurora. Ionospheric Radio Astronomy.


NBS